

AD-A142 397

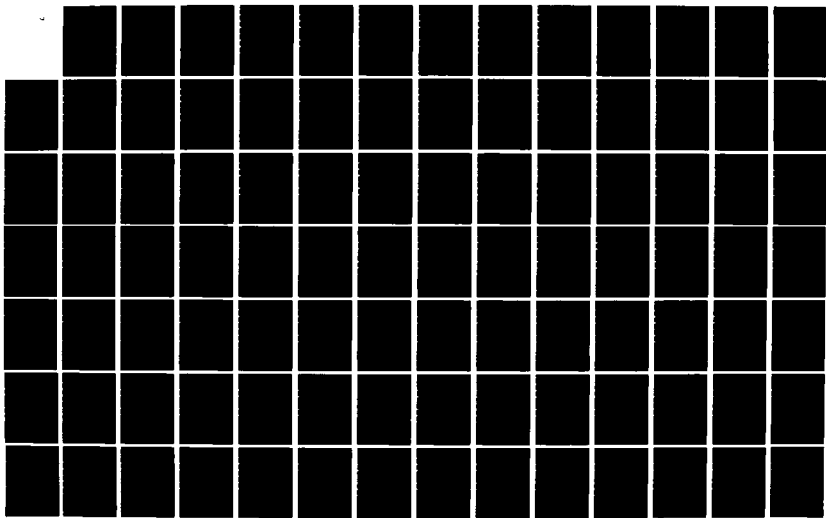
STANDARDIZATION PLAN FOR FIBER OPTICS OPTIONAL PHASE
VOLUME 3(U) INFORMATION GATEKEEPERS INC BOSTON MA 1984
F04606-82-C-1505

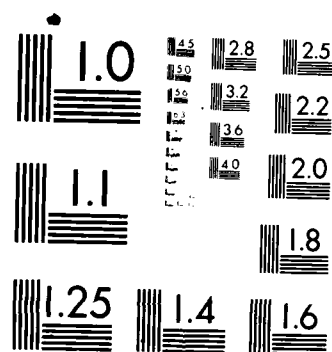
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A

AD-A142 397

FINAL REPORT

Standardization Plan for Fiber Optics
Optional Phase

VOLUME III

submitted under Air Force Contract F04606-82-C-1505

to

Sacramento ALC/PM
McClellan Air Force Base

By

Information Gatekeepers, Inc.
138 Brighton Avenue
Boston, Massachusetts 02134
(617) 787-1776

and

Aetna Telecommunications Consultants
889 West Main Street
Centerville, Massachusetts 02632
(617) 778-1442

JUN 23 1984

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APPENDIX 5

SPECIFICATIONS APPLICABLE TO THE FEDERAL STOCK CLASSES



41

6015

(FIBER OPTIC CABLE)

SPECIFICATIONS DATA BASE

ITEM (TITLE)	DOCUMENT NUMBER	SPONSOR ORGANIZATION	INDIVIDUAL RESPONSIBLE FOR PREPARATION	DATE OF PREP
Military Spec. Cables, Fiber Optics General Spec. for Metric Range A, <u>Single Fiber</u>	DOD-C-85045	Naval Air Engineering Center Code 93 Lakehurst, NJ 08733		2/16/79
Military Spec. Cables, Fiber Optics, Type I, Class 2 Composition A, Attenuation Range A, <u>Single Fiber</u>	DOD-C-85045/1	Directorate of Electronic Support Attention: AFALD/PTS Gentile AFS, OH 45444		11/10/81
Military Spec. Cables, Fiber Optics, Type I, Class 2 Composition A, Attenuation Range A, <u>Heavy Duty</u>	DOD-C-85045/2	Directorate of Electronic Support Attention: AFALD/PTS Gentile, AFS, OH 45444		11/10/81
Interim Fiber Modem Specs. Spec. Rev. B	PR NO.C-2-2118 RADC		Tom Ross	2/17/81
Procurement Specification for a Fiber Optic Cable System (FOCS) (System to Replace CX-11230)		U.S. Naval Electronics Command (Navelex) Washington, DC 20363		

6020

(CABLE ASSEMBLY)

SPECIFICATIONS DATA BASE

ITEM (TITLE)	DOCUMENT NUMBER	SPONSOR ORGANIZATION	INDIVIDUAL RESPONSIBLE FOR PREPARATION	DATE OF ^{Issue} ISS
<u>Specification for a Cable/Harness Assembly</u>		Comm. Naval Elect. Systems Command Dept. of the Navy Washington, DC 20362	Dick Shade 513-296-5491 986-5491 AV Defense Electronics Supply Ctr Dayton, OH 45444 DESC-EMD	Delayed to mid 84

6030

(FIBER OPTIC DEVICES
TRANSMITTERS, RECEIVERS, ILD, LED, PIN, APD)

SPECIFICATIONS DATA BASE

ITEM (TITLE)	DOCUMENT NUMBER	SPONSOR ORGANIZATION	INDIVIDUAL RESPONSIBLE FOR PREPARATION	DATE OF ^{Issue} ISSUE
E quipment Performance Spec. F or Digital F.O. Modems	EPS-82-0010C	1842 EEG/EEICS Scott AFB, IL 62225	Ken Becker 618-256-4591 638-4591 Autovon	4/15/83
E quipment Performance Spec. F or Analog F.O. Modems	EPS-82-016B	1842 EEG/EEICS Scott AFB, IL 62225	Ken Becker 618-256-4591 638-4591 Autovon	4/15/83
E quipment Performance Spec. F or T1 Multiplexer Terminal E quipment (draft)	EPS-82-006	1842 EEG/EEICS Scott AFB, IL 62225	Ken Becker 618-256-4591 638-4591 Autovon	8/29/83
E quipment Performance Spec. F or T3 Multiplexer Terminal E quipment (draft)	EPS-83-006	1842 EEG/EEICS Scott AFB, IL 62225 618-256-4591 638-4591 Autovon	Ken Becker	8/29/83

6030

(FIBER OPTIC DEVICES
TRANSMITTERS, RECEIVERS, ILD, LED, PIN, APD)

SPECIFICATIONS DATA BASE

ITEM (TITLE)	DOCUMENT NUMBER	SPONSOR ORGANIZATION	INDIVIDUAL RESPONSIBLE FOR PREPARATION	DATE OF ISSUANCE
Equipment Performance Spec. For T1 Carrier Span Line Equipment (draft)	EPS-82-007	1842 EEG/EEICS Scott AFB, IL 62225 618-256-4591 638-4591 Autovon	Ken Becker	1/10/83
Fiber Optic Transceiver Spec.		RADC	Frank Chiffy	
Fiber Optic Modem Specs.		Quality Assurance-RADC Prep. for Delivery-RADC		
<u>Specifications for Repeater Devices</u>		Air Force 85 WP AFB	Dick Shade 513-296-5491 986-5491 Autovon Defense Electronics Supply Ctr Dayton, OH 45444 DESC-EMD	Draft 1/84 Final Issue 1/85
<u>Specifications on Sources</u>		Comm. Naval Elect. Systems Command Dept. of the Navy Washington, DC 20362	Dick Shade 513-296-5491 986-5491-Autovon Defense Electronics Supply Ctr Dayton, OH 45444 DESC-EMD	Delayed to Mid 84
<u>Specifications on Detectors</u>		Comm. Naval Elect. Systems Command Dept. of the Navy Washington, DC 20362	Dick Shade 513-296-5491 986-4591 Autovon Defense Electronics Supply Ctr Dayton, OH 45444 DESC-EMD	Delayed to Mid 84

6060

(CONNECTORS, COUPLERS, SPLICES)

SPECIFICATIONS DATA BASE

ISSUE
DATE OF ISSUE

INDIVIDUAL RESPONSIBLE
FOR PREPARATION

SPONSOR
ORGANIZATION

DOCUMENT
NUMBER

ITEM (TITLE)

Interim Fiber Optic Connector PR NO.C-2-2118
Spec. Rev. B

Multipoint Coupler
Specification

Comm. Naval Elect. Systems Command
Dept. of the Navy
Washington, DC 20362

Dick Shade
513-296-5491
986-5491-Autovon

Defense Electronics Supply Ctr
Dayton, OH 45444
DESC-EMD

Specifications on Splices
Fusion, Mechanical,
Chemical

Comm. Naval Elect. Systems Command
Dept. of the Navy
Washington, DC 20362

Dick Shade
513-296-5491
986-5491 Autovon

Defense Electronics Supply
Dayton, OH 45444
DSC-EMD

Military Spec. Connectors
Fiber Optic)

MIL-C-85044
Naval Air Engineering Center
Code 93
Lakehurst, NJ 08733

1/17/77

6060

(FIBER OPTIC INTERCONNECTORS)

SPECIFICATIONS DATA BASE

ITEM (TITLE)	DOCUMENT NUMBER	SPONSOR ORGANIZATION	INDIVIDUAL RESPONSIBLE FOR PREPARATION	DATE OF ^{Issue} 1985
<u>Specifications for a Bulkhead Penetrator</u>		Comm. Naval Elect. Systems Command Dept. of the Navy Washington, DC 20362	Dick Shade 513-296-5491 986-5491 Autovon Defense Electronics Supply Ctr Dayton, OH 45444 DESC-EMD	Delayed to Mid 84
<u>Specifications for a Hull Penetration Device</u>		Comm. Naval Elect. Systems Command Dept. of the Navy Washington, DC 20362	Dick Shade 513-296-5491 986-5491 Autovon Defense Electronics Supply Ctr Dayton, OH 45444 DES -EMD	Delayed to Mid 84
<u>Specification for SMA Style Fiber Optic Connectors</u>		Air Force 85 WP AFB 513-296-5491 986-5491 Autovon	Dick Shade Final Issue 1/85 Defense Electronics Supply Ctr Dayton, OH 45444 DESC-EMD	Draft 1/84
<u>Specifications for Hughes Multichannel Connectors</u>		Air Force 85 WP AFB 513-296-5491 986-5491 Autovon	Dick Shade Final Issue 1/85	Draft 1/84

6070

(FIBER OPTIC ACCESSORIES AND SUPPLIES)

SPECIFICATIONS DATA BASE

ITEM (TITLE)	DOCUMENT NUMBER	SPONSOR ORGANIZATION	INDIVIDUAL RESPONSIBLE FOR PREPARATION	DATE OF ISS
Specifications on Tools Scribes, Crimping, Cutoff) nitial Draft		Air Force 85, WP AFB		Delayed to Mid 84

6080

(FIBER OPTIC KITS AND TEST SETS)

SPECIFICATIONS DATA BASE

ITEM (TITLE)	DOCUMENT NUMBER	SPONSOR ORGANIZATION	INDIVIDUAL RESPONSIBLE FOR PREPARATION	DATE OF ISS
Military Standard Fiber Optics Test Methods and Instrumentation	MIL-STD-1678	Engineering Spec. & Stds. Dept. Naval Air Engineering Center Lakehurst, NJ 08733		12/17/76
Specifications for <u>Microscope</u> <u>Microscope Kit</u>		Air Force 85 WP AFB	Dick Shade 513-296-5491 986-5491 Autovon	Draft 1/84 Final Issue 1/85

APPENDIX 6
MILITARY CONTACT LIST

MILITARY CONTACT LIST

AIR FORCE

AFCC

HQ AFLC

AFWL

ASD

Eglin AFB

ESD

Mitre

RADC

SM/ALC

HQ AFSC

HQ USAF

AF AVIONICS LAB

SAC

AF FLIGHT DYNAMICS

WR/ALC

ARMY

CECOM

Army Communications Command

AVRADCOM

DARCOM

U. S. MARINES

NAVY

NAC

NAVELEX

NOSC

NRL

NAVAIR

NAVAL ELECTRONIC SYSTEMS DIVISION

NAVAL ELECTRONICS SYSTEMS ENGINEERING CENTER

NAVAL ELECTRONICS SYSTEMS COMMAND

NAVSEA

NAVAL SURFACE WEAPONS
CENTER

NAVAL SHIP RESEARCH
AND DEVELOPMENT CENTER

OTHER AGENCIES

DCA

DLA

INSTITUTE FOR TELECOMMUNICATION SCIENCE

DESC

NASA

FAA

NBS

VENDORS & CONTRACTORS

AFCC

Air Force Communications Command

Thomas Verbeck, Capt. USAF
Deputy Director of Engineering
HQAFCCE/EPE
Scott AFB, IL 62225
618-256-2736

Kenneth E. Becker
Supervisory Electronic Engineer
1842 EEG/EEICS
Scott AFB, IL 62225
618-256-4591

Jake Radcliff
Engineer
1842 EEG/EEICS
Scott AFB, IL 62225
618-256-4591

Major Nowakowski
Scott AFB, IL 62225
618-256-4979

Paul Pollick
AFCC/EPPD
Scott AFB, IL 62225
618-256-3491

Tom Weaver
Engineer
1842 EEG/
Scott AFB, IL 62225
618-256-2656

John Zietlow
EIC/EIEWD
Scott AFB, IL 62225
405-734-9445

Bill Cabanlit
1843 EIG/EIEWD
Scott AFB, IL 62225
618-256-1103

Robert Conn
1842 EIG
Scott AFB, IL 62225
618-256-5595

Major Roger Nystrom
Scott AFB, IL 62225
618-256-3514

JRSC, DSCS (DEFENSE
SATELLITE COMMUNICATIONS
SYSTEM)

Robert Lounsbery
Scott AFB, IL 62225
618-256-2653

DSCS

Tom Sapinzena
AFCC
Scott AFB, IL 62225
618-256-4591

CAPT. Pracher
AFCC/
Scott AFB, IL 62225
618-256-3514

JRSC, DSCS

CAPT Douglas Naegle
HQ AFCC/EPPB
Scott AFB, IL 62225
618-256-5484

PROGRAM MANAGER
FIBER OPTIC
INSTALLATIONS

HQ AFLC

Headquarters Air Force Logistics Command

Patrick Rodeheaver
HQ ALC/LOWE
W-PAFB, Ohio 45433
513-257-7020

Joe Saporito
HQ ALC/MAWA
W-PAFB, Ohio 45433
513-257-2184

Capt Earl Santee
HQ ALC/CFEC
W-PAFB, Ohio 45433
513-257-6751

Major Phillip "Jerry" Carlquist
W-PAFB, Ohio 45433

Frank Whittler
Newark AFS
614-580-7323

PRAM (Product Reliability and Maintainability)

Colonel P. W. Marshall
513-253-6201

Marjor Larry Almond
HQ ALC
W-PAFB, Ohio 45433
513-225-3442

Herb Sickles
Tinker AFB, Oklahoma

Carl Matthai
513-296-5571

Connector Tools

Margaret Booren
513-257-3650

F. O. Depository of
Information

Richard A. Harris
AF Logistics Command
CASD/LODS
Federal Center
Battlecreek, Michigan 49016
616-962-6511 X9381

William Crawford
AFLogistics Command
CASD/LODS
Federal Center
Battlecreek, Michigan 49016
616-962-6511

OTHER ALCs

John Sutton
(MMECF)
Warner Robbins AFB
926-6085 A.V.

James Sheppard
WR-ALC/MAIP
926-3562 A.V.

William C. Ramsy, Jr.
WR-ALC./MAIES
926-6095 A.V.

Headquarters AFSC

Dr Francis Rensvold
AFSC/DLY
301-981-4786

IRAD

Headquarters USAF

Lt Commander Robert Hanlon
Pentagon
Washington, D.C.
202-647-9210

LAN

Major Armstrong
PEM/RDST
Pentagon
Washington, D.C.
202-697-8250

F.O.

AF Avionics Lab

Mason Friar
W-PAFB, Ohio 45433
513-255-4594

Ken Trumble
W-PAFB, Ohio 45433
513-255-4594

PAVE PILLAR

SAC

Major Charles Mosser
ICBM Communications Systems
Strategic Air Command (DCLB)
SCO/LGB
Offutt AFB, NE 68113
401-294-6441

AF Flight Dynamics

R. C. Beavin
ADP Project Manager
W-PAFB, Ohio 45433
513-255-2527

AFWL

Air Force Weapons Lab
Kirkland AFB, NM

Bob Human
AFWL

E. W. Taylor
AFWL/NTCO
505-844-7099

ASD

Aeronautic System Division

Craig Burgess
ASD/ENASF
W-PAFB, Ohio 45433
513-255-2170

John Slivinski
Manager
ASD/ENASF
W-PAFB, Ohio 45423
513-255-2170

Rich Levinduski
ASD/ENASF
W-PAFB, Ohio 45433

Charles McMann
513-255-6929

Fred Raul
513-255-2234

Jack Cortin
513-255-5078

Lightning

Chris Blake
513-255-4130

EGLIN AIR FORCE BASE
Systems Command
AF Armament Division
Eglin AFB, FL 32542

Phil Cunningham
904-881-4445

MS1760

Mil-STD-1760

ESD

Electronic Systems Division
Hanscom AFB, MA 01731

Captain Craig Gilbert
ESD/XRV
617-271-7234

Captain Robert Lyons
ESD/XRV
617-271-3892

Lt. Don McDannials
ESD/XRV
617-271-7234

Colonel David C. Luke
Director Advanced Concepts & Technology
ESD/XRV
617-271-7234

Colonel Jonson
Deputy Director Advanced Concepts & Technology
ESD/XRV
617-271-7234

Colonel E. A. Mezzapelle (Missile Warning Systems SPO)
ESD/SC
617-861-

(Programs that fall under this SPO)

LTC Levesque Steve Briggs	X2105	CSSR (Command Center)
Major Swiech	863-6705	CCPDS (Command Center Processing and Display Center)
LTC Clark 617-861-6700		JRSC (Sure ComCon)
LTC Fred Robinson 617-861-4516		PAVE PAWS
LTC Lind 617-861-4002		Bmews Mod

James Dees
ESD/SCD
861-4881

SPADOC

Lt. Col Frank Vosika
ESD/XRT
617-271-2635

Col. Charles Jaglinski
ESD/Detachment 9
Europe

EIFEL FOLLOW ON

LTC Jonathan S. Katz
AF LAN System Program Office
Building 1435
617-861-4933

ULANA 1

Lt. Steven Solterbeck
ESD/TCJD
617-271-2837

Darcy Norton
ESD/TCJL
617-271-2866

Richard DiMealia
ESD/TCS
617-861-5625

JTIDS/ASIT
TCS-1
TCS-2

COL. Anthony Napoli
ESD/TCS-1
617-271-8306,7

TCS-3
COMBAT IDENTIFICATION
SYSTEM (CIS)

LTC Drew Weyland
Deputy for C3 Counter Measure
ESD/ECE
617-861-7236

COMFY-CHALLENGE

LTC J. G. Clark
ESD/DCKP
617-271-4717

SURE COMM DIRECTOR JRSC

Irwin Stone
ESD/SCT
617-863-6702

SURE COMM

Col. W. K. Messner
ESD/OCB
617-861-4416
SECURITY SYSTEM)

PHYSICAL SECURITY SYS
WS3 (WCSDM STORAGE &

James Henslee
EDS/OCBE
617-861-5241

CHEYENE MT SYSTEM

Dennis Volpe
ESD/SCU
617-271-3125

BERLIN RADAR, NORTH
WARNING, OTHB, NAAAS,
SEEK IGL00

LTC Gene Box
ESD/OCU-3
617-861-4285

BERLIN RADAR

Major Earl Green
ESD/OCU-3
617-861-4121
271-7988

BERLIN RADAR

Major Robert Bowles
ESD/OCUI
617-861-4171
617-271-3861

COL. Snyder
617-271-3368

Tony Durante
ESD/TCI
617-271-3056

OASIS
TIPI-MAGIC

Ron Mason
ESD/TCIC
617-271-8417

TIPI-MAGIC

COL. T. Sanford
ESD/SCW
617-271-3761

WWMCCSS

Mathew Mleziva
Director, ESD/TCX

LTC McNammara
ESD/TCR

TAOC-85

LTC Volly Fields
ESD/PCF
617-861-4330

LTC. Lou Carroll

Col. T. G. Moeller
ESD/TCR

TPBMS

LTC J. Puffer
ESD/TCIC
617-271-3328

OASIS

MAJ Richard Hocker
ESD/DCY-4
617-861-4943

SINCGARS

LTC Donald Damm
ESD/PKW
Hanscom AFB, MA 01731

MITRE CORPORATION

James A. Armstrong
Mitre Corporation B270
Box 208
Bedford, MA
617-271-2866 (Logistics)

AN/TAC-1

George Strohmeier
D59
617-271-2027

NATO SHAPE

John Fridman
D59
617-271-2012

NATO SHAPE

Charles Husbands
D59
617-271-7488

NATO SHAPE

Dr Bruce Metcalf
D59
617-271-2246

NATO SHAPE

Charles Kleekamp
D59
617-271-3357

NATO SHAPE

Maury Vacherot
Mitre Corporation
Box 208
Bedford, MA
617-861-2579

SUPPORTS ESD/TCS-1

RADC

Rome Air Development Center
Griffis AFB, NY

Paul Sierak
315-330-4092

WIDEBAND, AN/GYQ, ASOC

Brian Hendricson
315-330-4092

TRI-SERVICE CHAIRMAN

Tom Ross
315-330-4092

MFOX
TACTICAL GENERIC CABLE
REPLACEMENT (MUD BOX
VERSION) FLEXIBLE INTER-
CONNECT

Frank Chiffy
315-330-4092

TACTICAL GENERIC CABLE
REPLACEMENT (CONNECTOR
VERSION)

Gene Norris
315-330-4092

Norm Sturtevant
315-330-4165

26 PAIR CABLE PROGRAM,
F.O. LAN

Lt. Tony Wiegand
315-330-3571

MULTI WAVE LENGTH FIBER
LANS

LT James "Mark" McCall
Project Engineer
RADC/COTD
Griffis AFB, NY 13441
315-330-3623

RADC LAN

Jim Hunter
Fiber Optic Engineer
315-330-2842

Richard Payne
RADC
Rome Air Development
Hanscom AFB, MA 01731
617-861-3292

NATO INTERCONNECTION

Andy Yang
Rome Air Development Center
Hanscom AFB, MA 01731
617-861-3296

IROC
LASER FENCE

Dr Martin Drexhage
RADC/ESM
Solid State Sciences Division
Rome Air Development Center
Hanscom AFB, MA 01731
617-881-2211

James Davis
315-330-4092

SM/ALC
Sacramento Air Logistics Center
McClellan AFB, CA

Burt Thompson
Sacramento ALC/MMIMA
McClellan AFB, CA 95652
916-643-3341

Marvin Wood
SM-ALC/MMIREC
McClellan AFB, CA 95652
916-643-2956

Lt. Ned Williams
SM-ALC/MMIREC
McClellan AFB, CA 95652
916-643-2956

Rick Knoll
Engineer
Sacramento ALC/MME
McClellan AFB, CA 95652
916-643-5147

David Hill
SM-ALC/MME
Sacramento ALC
McClellan AFB, CA 95652

Dennis A. Burman
Engineer
Sacramento ALC/MME
McClellan AFB, CA 95652
916-643-5147

Tom Trimble
Sacramento ALC/MME

Fred Shrader
Sacramento ALC/MMCREB
916-643-5943

David Hill
Sacramento ALC/MMEHD
916-643-5147

NAVAL AVIONICS CENTER (NAC)

Stan Michael
6000 E 21st Street
Division 810
Indiannapolis, Indiana 40218

SERIES 4 CONNECTOR
CONTRACT

Rod Katz
6000 E21st Street
Division 810
Indianapolis, Indiana 40218
317-353-7818

MIL-STD-1773 BUS

NAVAIR
Washington, D.C.

Andy Glista

NAVSEA

Leonard Bloom
202-692-2156

NAVAL SURFACE WEAPONS CENTER
Dalhgren, VA

James Adair
703-663-8968

AEGIS CABLES

U. S. ARMY

ACC
Army Communications Command
Ft Huachuca, Arizona 8561

Joe Whitney
Systems Standardization
Ft. Huachuca, Arizona
602-538-6719

R. Hotchkiss
STEEP-MT-OD

NAME SITE

Bruce Donaldson

AVRADCOM
(Army Aviation R & D Command)
Ft. Eustis, Virginia 23604

E. Birocco
Director, Applied Technologies Lab
DAVdL/ATL/ATA
802-878-3302/4205

ADOCs

CECOM
DRSEL-COM-RM-1
Ft. Monmouth, New Jersey 07703

COL. Baldwin
201-532-4081

SINGARS

Joseph Myslinski
201-532-4081

SINGARS

Dr R. Freese
201-532-8210

LAN

Vas Kalomaris
201-544-5206/5415

F. O. CABLES/CONNECTORS

Wally Smithline
201-544-5206

H. Wichanski

FIBER OPTIC PROGRAM
MANAGEMENT

Lewis Coryell
201-544-5206

NOSC

Naval Ocean Systems Center
San Diego, California

Robert Lebduska
619-225-6194/7431

FIBER OPTIC SYSTEM
APPLICATION REPORT &
FIBER OPTIC STANDARDS
AND SPECS

T. Sampite
NOSC
Code 934
271 Catalina Boulevard
San Diego, CA 92152

Robert Kochansky
619-225-6823

AEGIS

Dan Leonard
619-225-7093

LAN

Gerald Lapt
619-225-2044

LAN

NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER

David W. Taylor
Annapolis, MD 21402
301-267-2565/3483

F. O. CABLES

NAVAL ELECTRONIC SYSTEMS DIVISION

Michael A. Delucia
Code 2715

NAVELEX

Frank Berg
U. S. Naval Electronics Systems Command
Attn: PDE-110-2312/Mr Berg
Washington, D.C. 20363
202-692-8365

LONG HAUL FIBER OPTIC
COMMUNICATIONS SPEC.

NRL

Naval Research Lab
Washington, D.C. 20375

Dr George Siegel
202-767-2870

RAD EFFECTS

Dr Henry Taylor
202-767-2870

F. O. SENSORS
FOSS

NAVAL ELECTRONICS SYSTEMS ENGINEERING CENTER

P. O. Box Code 410
Portsmouth, VA 23705

A. Urbany
804-393-5706

AN/FAC-1, 2

NAVAL ELECTRIC SYSTEMS COMMAND

J. M. Jerr, Jr.
202-692-7228

COMPONENTS

Jules Letillier
202-692-0299

R & D

DARCOM

Steven Smith
Department of the Army
DRCPM-AAH-SEC
APACHE, DARCOM
4300 Goodfellow Boulevard
St. Louis, Missouri 63120

COL Donald Wray
Department of the Army DRCPM-AAH-TP
APACHE, DARCOM
4300 Goodfellow Boulevard
St. Louis, Missouri 63120

James Wade
Department of the Army
DRCPM-AAH-SEC
4300 Goodfellow Boulevard
St. Louis, Missouri 63120

U. S. MARINE CORPS

Commanding Officer
C3 Division
Development Center
MCDEC
Quantco, VA 22134
Attn: Jesse Lott
D102

DCA

Defense Communications Agency

Brian Choi
Defense Communications Agency
Engineering Center
1860 Wiehle Avenue
Reston, Virginia
703-437-2081

Nicholas J. Sorovacu
Director
Code 230
1860 Wiehle Avenue
Reston, Virginia
703-437-2072

FIBER OPTIC SYSTEM
DESIGN

Major Allen
703-285-5025

LAN

Major Larry Wheeler
703-285-5032

LAN

DLA

Defense Logistics Agency
Cameron Station
Alexandria, Virginia 22314

Henry Filipi
202-274-6781

FAA

Federal Aeronautics Administration

Les Prosser
Project Manager
HQFAA
800 Independence Avenue SW
Washington, D.C. 20591
202-426-8663

FBLMS
(Fixed Base Microwave
Landing Systems)

L. Reffel
HQFAA
800 Independence Avenue SW
Washington, D.C. 20591
202-426-8663

Mr Tranor
HQFAA
800 Independence Avenue SW
Washington, D.C. 20591
202-426-8663

Mr Harris
HQFAA
800 Independence Avenue SW
Washington, D.C. 20591
202-426-8663

DESC

Defense Electronics Supply Center
1507 Wilmington Pike
Gentile AFS
Dayton, Ohio 45444

Arthur Hudson
DESC/ESS
X6093

FIBER OPTIC STANDARDS

Richard Thomas
DESC/ESS
513-296-5541

FIBER OPTIC STANDARDS

Steven Searcy
DESC/EMD
513-296-5491

FIBER OPTIC STANDARDS

Richard Shade
DESC/EMD
513-296-5491

FIBER OPTIC STANDARDS

Bobbi George
DESC/EMD
513-296-5491

FIBER OPTIC STANDARDS

Robert Rosell
AFALD/PTSP
Gentile AFB, Dayton, OHIO 45444

FIBER OPTIC STANDARDS

INSTITUTE FOR TELECOMMUNICATION SCIENCE

325 Broadway
Boulder, Colorado

Joseph Hull

NBS

National Bureau of Standards
325 Broadway
Boulder Colorado

Dr R. Gallawa

NASA

Kennedy Space Center

M. Padgett
305-823-3842

SINGLE MODE FIBER OPTICS
CABLE EVALUATION
(SIECOR CONTRACTOR)
FIBER OPTICS TERMINAL
EQUIPMENT
FIBER OPTICS LIQUID LEAK
SENSOR

T. Herring
305-823-3843

MUX/DEMUX DIGITAL AND
ANALOG DEVELOPMENT

C. Bell
305-867-4412

FIBER OPTICS CABLE
COMMUNICATIONS
(GENERAL CABLE)
FDM MUX/DEMUX DEVELOPMENT (EMR CORP)

Marshall Space Flight Center

D. Thomas
205-872-5603

100 MEGABIT/SEC FIBER
OPTICS BUS (OAO CORP.
ITT-EOPD CONTRACTOR)
OTHER - INTERBUILDING
COMMUNICATION LINK

Langley Research Center

Leonard Clark
804-827-3704

LDEF (Shuttle) FIBER
OPTICS EXPERIMENT
(JPL, AFWL & CERT/
OWENS-DERTS)

N. D. Murray
804-827-3535

INFORMATION NETWORK
ARCHITECTURE RESEARCH
(ADAPTIVE NODE SELF-
CORRECTING/REPAIRING
NETWORK) (BATTELLE
MEMORIAL INSTITUTE)

M. Beatty
804-827-3535

INFORMATION NETWORK
ARCHITECTURE RESEARCH
(SMART OPTICAL NODES
FOR COMPUTER NETWORKS
(BATTELLE MEMORIAL
INSTITUTE)

H. D. Hendricks
804-827-3418

OPTICAL BUS COMPONENTS
FOR INFORMATION
NETWORKS
(AMERICAN HOLOGRAPHIC,
RCA, LaRC)
InGaAsP SEMICONDUCTOR
LASERS
DIFFERENT WAVELENGTH
CDH-AlGaAs LASERS
(RCA, PRINCETON)

J. Larry Spencer
804-827-3418

Harry Fuller
804-827-3585

Daniel J. Crawford
804-827-3418

C. J. Magee
804-827-3418

K. T. Looney
804-827-3535

J. L. Spencer
804-827-3601

W. L. Kitchen
804-827-3581

J. H. Cantrell
804-827-3418

MIL-STD-1773 FIBER OPTIC
DATA BUS (BOEING)

TERMINAL CONFIGURED
VEHICLE CONTROL MODE
PANEL AND DATA BUS
(BOEING COMMERCIAL
PLANE COMPANY)

FLIGHT SIMULATION SIGNAL
DISTRIBUTION NETWORK
(CONTROL DATA CORP.)

MONOLITHIC INTEGRATED
LASER TRANSMITTER
PHOTODETECTOR
RECEIVER (RCA)

INTEGRATED OPTIC DATA
PROCESSORS
(BATTELLE MEMORIAL
INSTITUTE)

A PLANAR ROWLAND GRATING
DEMULTIPLEXER FOR
WAVELENGTH DIVISION
MULTIPLEXING
(HUGHES RESEARCH LAB)

REMOTELY ACTUATED FIBER
OPTICS CONNECTOR FOR
LSST (R.I., HRL)

IN SITU OPTICAL FIBER
SENSOR FOR COMPOSITE
STRAIN AND ACOUSTIC
EMISSION
(GRANT:VPI-R.KLANS)

Jet Propulsion Laboratory

George F. Lutes
213-792-6210

George C. Lagomarsini
213-792-5246

Willis Gross
213-792-4455

A. R. Johnston
213-792-4054

FIBER OPTIC FREQUENCY
REFERENCE DISTRIBUTION

FIBER OPTICS DATA
EXPERIMENT

FIBER OPTICS GYRO
ROTATION SENSOR

DATA TRANSMISSION &
PROCESSING
OPTICAL PROCESSING
MATERIALS AND DEVICES

T. J. Bicknell
213-792-2523

SYNTHETIC APERTURE
RADAR OPTICAL
PROCESSOR

J. B. Breckinridge
213-792-6785

PARALLEL OPTICAL
PROCESSOR

Ames Research Center

John Goebel
415-448-6525

NONLINEAR INFRARED
FIBERS (GRANT:
STANFORD UNIVERSITY)

Ronald C. Kauffman
415-448-6215

WIND TUNNEL - COMPUTER
LINKS (SPECTRONICS
BELDON)

Tim Healey
Terry L. Grant
415-448-6526

FIBER OPTICS DATA BUS
CODING

Johnson Space Center

H. O. Erwin
713-525-2872

OPTICAL COMMUNICATIONS
FOR SPACE APPLICATION
OPTICAL SCANNING &
TRACKING (CODENOLL,
H.P.,OIS)

M. Engert
713-525-2872

MISCELLANEOUS; PHASE
CONTROL OF ANTENNA
ARRAYS, LIQUID LEVEL,
TEMPERATURE AND
PRESSURE SENSORS

Goddard Space Flight Center

H. Lopez
301-344-8523

INTERBUILDING OPTICAL
FIBER COMMUNICATIONS
(PENDING)

T. Miller
301-344-6531

FIBER OPTICS BUS SYSTEM
(SPERRY)

Lewis Research Center

R. Baumbick
216-294-6136

RARE EARTH TEMPERATURE
SENSOR
OPTICAL CONTROL OF
ACTUATORS
(UNITED TECHNOLOGIES)
FABRY-PEROT TEMPERATURE
SENSOR (OPCOA, INC.)

VENDORS & OTHER COMMERCIAL CONTACTS

Ted Leonard
Project Engineer F.O. Systems
ITT Electro Optical Systems Division
7635 Plantation Road
Roanoke, Virginia
703-563-0371

STUDY FOR RADC ON HOW
TO REMOTE & INSTALL
FIBER OPTIC SYSTEMS

Mel Burrell
Electro Optics Division
Honeywell
Richardson, Texas
214-234-4271

ADOC XMITTER PACKAGES

Dean Watkins
Hughes Aircraft Co
Building 811
Tucson, Arizona 85734
602-295-4548

CONNECTOR SPEC

Owen Mulkey
Boeing Aerospace
206-773-9090

ADOCs & AIRCRAFT
APPLICATIONS

Howard Kaker
General Dynamics
Ft Worth, Texas
817-732-4811

FLY BY WIRE E16

Rien Poppas
McDonnell Douglas
P. O. Box 516
St. Louis, MO 03166
314-233-8669

A. F. CONNECTOR STUDY
AV-8B

Honeywell, Inc.
Avionics Division
1625 Zarthan Avenue
St. Louis Park, MN 55416

DIGITAC

Russel Hendrick

Robert Gaebo

Frank Brink

Arnold Knight

Jack Shuck

ADOCs Program

ADOCs PROGRAM

Al Valorani

MFOX

RCA

Manager Tactical Communications

Defense Electronics Products

Defense Communications Systems Division

Camden, NJ 08102

609-338-2232

Dr Donald Channing
Research Leader
RCA Laboratories
David Jannoff Research Center
Princeton, NJ 08540
609-734-2383

MFOX

Greg Beverage
Mountain Bell

CHEYENNE MT SYSTEM

Bruce McMannus
Boeing VTROL Division
P. O. Box 16858
Philadelphia, Pennsylvania 19142
M/S 3233
215-522-3637

ADOCS

Phil Lampe
McDonnell Douglas Aircraft
P. O. Box 516
St. Louis, Missouri 63166

HARRIER

John Chipman
F. O. Business Area Manager
GTE
One Research Drive
Westborough, Massachusetts 01581
MS/20
617-366-6000

Darrel Hartung
General Electric Company
54 Middlesex Turnpike
Bedford, Massachusetts

MAGIC

Mr Raynor Taylor
GTE Communications Products Corp
77 "A" Street, Building 5
Needham Heights, MA 02194
(Mailstop 10-1650)
617-449-2006 X2227

LDFOCS
TGCR
MFOX

Mr Gerd Kieser
GTE Communications Products Corp
77 "A" Street, Building 5
Needham Heights, MA 02194
(Mailstop 10-1650)
617-449-2006 X2227

A.F. TRANCEIVER PROGRAM

Mr Joe Caggiano
GTE Communications Products Corp
77 "A" Street, Building 5
Needham Heights, MA 02194
(Mailstop 10-1650)
617-449-2006 X2227

MANAGER FIBER OPTICS

Boeing

Bill Cooley
206-655-5039

ATMOSPHERIC HAZARDS
PROTECTION

Booz-Allen Hamilton

Dr Ira Cotton
301-951-2200
Bethesda, Maryland

Bernie Dimarinis
201-747-9303
Ft. Monmouth, NJ

Allen Grief
617-274-0520-Hanscom
617-275-8770
Bedford, MA

Fibercom

Dr Albert Bender
703-366-4500

ITT Gilfillian

Thomas Dixon
7821 Orion Avenue
Mail Station #13
Van Nuys, CA 91409
213-988-2600

DATA LINKS FOR SHIP-
BOARD AND LANDBASED
RADARS RADAR LINKS

Litton Systems

Otis Gooding
Amecon Division
5115 Calvert Road
College Park, Maryland 70740
301-864-5600

LANs

McDonnell Douglas

Edward Six
P. O. Box 516 Building 270E
MS 118
St. Louis, Missouri 03166
314-233-0893

AV-8B

Floyd Caster
McDonnell Astroautics Company
Box 516 Building 106 Level 4
St. Louis, Missouri 63166
314-232-4491

GLCM

Lear Siegler

Jerry Sienicki/Ted Urbanik/Mat Rellis
LSI Avionics Systems
7-11 Vreeland Road
Florham Park, NJ 07932
201-542-2132

AV-8B

Rockwell International

G. W. Macheel
3370 Miroloma Avenue
Anaheim, California 92083
714-632-5604

F.O. LAN's

Siecor Optical Cable

M. G. Massarani
Manager Government Sales and Marketing
489 Siecor Park
Hickory, NC 28603
704-328-2171

GLCM

Spectran Corporation

Mr Charles Deluca
Hall Road
Sturbridge, MA 01566
617-347-2761

GLCM, AEGIS

APPENDIX 7A

FIBER OPTIC COMPONENTS CURRENTLY BEING USED

#	COMMERCIAL#	MILITARY#	VENDOR	DESCRIPTION
1		2000-001		Transmitter: LED (850 nm)
1		2000-002		Transmitter: LED (1300 nm)
1		2000-003		Transmitter: ILD (850 nm)
1		2000-004		Transmitter: ILD (1300 nm)
1		2200-001		Transmitter: LED (850 nm)
1		2200-002		Transmitter: LED (1300 nm)
1		2200-003		Transmitter: ILD (850 nm)
1		3000-001		Receiver: PIN (850 nm)
1		3000-002		Receiver: PIN (1300 nm)
1		3000-003		Receiver: APD (850 nm)
1		3000-004		Receiver: APD (1300 nm)
1		3300-001		Receiver: PIN (850 nm)
1		3300-002		Receiver: PIN (1300 nm)
1		3300-003		Receiver: APD (850 nm)
1		626498-130	ITT Cannon	Hermaphroditic Connector
1		626498-220	ITT Cannon	Hermaphroditic Connector
1		626702-1	Codenoll Technology	Transmitter
1		626702-2	Codenoll Technology	Transmitter
2		626703-1	Valtec	Cable
1		626830-1	Magnavox	603042000
1		626831-1	Magnavox	
1		8123795		Pigtail Assembly
1		853-05	ESD	Fiberoptic Set
1		HFM 1510-222	Honeywell Optoelectronics	Digital Receiver
1		HFM 2010-224	Honeywell Optoelectronics	Digital Transmitter
1		HFM 3502-222	Honeywell Optoelectronics	Analog Receiver
1		HFM 4002-223	Honeywell Optoelectronics	Digital Transmitter
1		SM-A-839026	ITT EOPD	Cable Graded Index
1	0006 507		ITT EOPD	Receptical; Single Fiber
1	0006 509		ITT EOPD	Terminus; Ferrule
1	0006 510		ITT EOPD	Accessory
1	0010557		ITT EOPD	Fiber
1	001170		ITT EOPD	Cable Assembly
1	01143338S		Hughes	Connector (Dust Cover)
1	012-0362-12		Dyonics	Fiber (Step-Index)
1	012-0464-12		Dyonics	Fiber (Step Index)
1	09-1344000-1		Hughes	Fitted Cable Assembly
1	09-1344000-2		Hughes	Fitted Cable Assembly
1	09-1344000-3		Hughes	Fitted Cable Assembly
1	09-1344000-4		Hughes	Fitted Cable Assembly
1	09-1344001-1		Hughes	Fitted Cable Assembly
1	09-1344001-2		Hughes	Fitted Cable Assembly
1	109-3201-050S-100S		Hughes	Connector Pin
1	109-3201-051S-100S		Hughes	Connector Pin
1	109-3201-052S-100S		Hughes	Connector Pin
1	109-3202-050S-100S		Hughes	Connector Socket
1	109-3202-051S-100S		Hughes	Connector Socket
1	109-3202-052S-100S		Hughes	Connector Socket
1	1093201-05		Hughes	Termination
1	1093201-050F-100S		Hughes Connector	Connector Termini Pin
1	1093201-050S		Hughes	Connector Termini Pin
2	1093201-051F-110S		Hughes Connector	Connector Termini Pin
2	1093201-056F-200S		Hughes Connector	Contact Termini Pin

#	COMMERCIAL#	MILITARY#	VENDOR	DESCRIPTION
1	1093201-057F		Hughes Connector	Pin Termini
1	1093201-057F-220S		Hughes	Pin Termini
1	1093201-057F-230S		Hughes	Pin Termini
1	1093201S		Hughes	Connector Termini Pin
1	1093202-057F-220S		Hughes	Connector Termini Socket
2	1093202S		Hughes	Connector Termini Socket
1	1127029-1S		Hughes	Receptacle; 6-Fiber
1	1127029-2S		Hughes	Receptacle
4	1127029S		Hughes	Connector Hermaphroditic
1	1127035S		Hughes	Connector Covers
2	1127038S		Hughes	Connector Covers
1	1127130-2S		Hughes	Plug
1	1127131S		Hughes	Plug Multifiber
3	1127132-1S		Hughes	Plug Multifiber (Jam Nut Mounted)
1	1127361-50S		Hughes	Connector Termini
1	1127361-51S		Hughes	Connector Termini
1	1127361-52S		Hughes	Connector Termini
1	1127362-50S		Hughes	Connector Termini
1	1127362-51S		Hughes	Connector Termini
1	1127362-52S		Hughes	Connector Termini
2	1127528S		Hughes	Multi Fiber Receptacle
1	1127529-2S		Hughes	Connector to Connector Adaptor
1	11275324S		Hughes	Backplane Fiber to Fiber Receptacle
1	1127535S		Hughes	Plug with Detector Card Edge
1	1127537S		Hughes	Accessories
1	1127727S		Hughes	Accessories
1	1143045-4S		Hughes Connector	Retainer Straps
1	1143045-5S		Hughes Connector	Retainer Straps
1	1143045S		Hughes	Cable Assembly
1	1143099-1S		Hughes Connector	Hermaphroditic Connector
1	1143099-2S		Hughes	Hermaphroditic Connector 2 Termini
1	1143100-4S		Hughes	Bulkhead Connector
1	1143102S		Hughes	Hermaphroditic Bulkhead Connector
1	1143110S		Hughes	Kit; Connector Field Term
1	1143132S		Hughes	Dust Caps
1	1143135S-8038		Hughes	Plug Connector 16-Position
1	1143136S		Hughes	Connector (Card Edge Version)
1	1143136S-8038		Hughes	Connector Receptacle 16 Termini
1	1143142S		Hughes	Light Pipe Cable Assembly
1	1143182-1S		Hughes	Bulkhead Connector
1	1143280S		Hughes	Connector (6 Contact)
1	1143295S		Hughes	Connector Strain Relief
2	1143338S		Hughes	Dust Cover
1	1143341S		Hughes	Receptacle Assembly
1	1143342S		Hughes	Cable Assembly
1	1143375S		Hughes	Cable Assembly
2	1143376S		Hughes	Hermaphroditic Bulkhead
1	1143582-1S		Hughes	Connector
2	1143582S		Hughes	Connectors (2 and 4 pin)
1	1143583-4S		Hughes	Hermaphroditic Bulkhead 2 Channel
1	1143584-2S		Hughes	264 Termini Hermaphroditic Receptacle
1	1143584-4F		Hughes	264 Termini Hermaphroditic Receptacle
1	1143584-4S		Hughes Connector	Termini Hermaphroditic Receptacle

#	COMMERCIAL#	MILITARY#	VENDOR	DESCRIPTION
1	1143584-5	1143584-5	Hughes	Bulkhead Connector
1	1143586-5	1143586-5	Hughes	Dustcover
1	1143586S		Hughes	Environmental Dust Cover (2 and 4)
1	1143588-2S		Hughes Connector	264 Nonenvironmental Dust Cover
1	1143588S		Hughes	Non-Environmental Dust Cover
2	1143610S		Hughes	Connector Field Kit
1	1143686-2S		Hughes Connector	Test Plug
1	1143741S		Hughes	Light Pipe Cable Assembly
1	1143747S		Hughes	Pigtail Cables (2 Channel)
1	1143810-1S		Hughes Connector	Test Plug
1	1143812S		Hughes Connector	Hermaphroditic Bulkhead Connector
1	1143816S		Hughes Connector	Hermaphroditic Connector
1	1143823-2S		Hughes	Dust Cover
2	1143944S		Hughes	Connector
1	1143945S		Hughes	Connector
1	1145367S		Hughes	Cable Assembly
1	1145675		Hughes	Connectors; Bulkhead
1	1147921S		Hughes	Crimp Ferrule
1	1147954S		Hughes	Connectors; Cable Mating
1	164820		ITT Gilfillan	Cable (Graded Index)
1	164821-1		ITT Gilfillan	Hermaphroditic Connector
1	164821-2		ITT Gilfillan	Cable Mount (Hermaphroditic 6-Fiber)
1	1704		Metavac Incorporated	Cable Assembly
1	188216		ITT Gilfillan	Transmitter
1	188217		ITT Gilfillan	Receiver
1	192-0033-020		Metavac Incorporated	Cable Assembly
1	2000-001		SM-ALC	Transmitter
1	2204506-04		Ampex Corporation	Cable Assembly
1	2204506-07		Ampex Corporation	Cable Assembly
1	221001		Belden	Cable
1	226101		Belden	Cable
1	227218		Belden	Cable
1	227285-2		Amphenol	Connector
1	229706		Belden	Cable; 6-Fiber 140/100
1	250513L		GTE Labs	Pin Diode
1	2768881-1		Texas Instruments	Light Guide
1	3000-001		SM-ALC	Receiver
1	3271277-1		NAVORD	Active FO Devices
1	3271278-1		NAVORD	Cable Assembly with Fittings
1	3290-201		Grassvalley	Transmitter
1	3290-202		Grassvalley	Receiver
1	345		ITT Corp	Cable
1	351-29862-001		Master Specialities	
1	351-29862-002		Master Specialities	
1	351-29862-003		Master Specialities	
1	351-29862-004		Master Specialities	
1	351-29862-005		Master Specialities	
1	351-29862-006		Master Specialities	
1	351-29862-008		Master Specialities	
1	351-29862-009		Master Specialities	
1	3551200-45K2K		Galileo	Cable
2	4205		Hewlett Packard	Detector
1	4324		Spectronics	Receivers

#	COMMERCIAL#	MILITARY#	VENDOR	DESCRIPTION
1	4352		Spectronics	Transmitters
1	4400 Com System		Optelecom	4400 Data Communications System
1	5002		Valtec	Fiber Optic Fibers
1	50118-02	626703-1	Valtec	Cable
1	51004			Epoxy
1	51006			Nutting Pliers
1	51011			600 Grit Silicon Carbide
1	542-21132		Galite	Cable (Graded Index)
1	55910		ITT EOPD	Single Fiber Connector
1	570592-1		Raytheon	Fiber Optic Assembly
1	626498		ITT Cannon	Connector (Hermaphroditic)
1	631113D		GTE Labs	Laser Diode
1	64569		Spectran	Fiber
1	6578T1001		Siecor	Cable
1	68391005-001		Martin Marietta	LED
1	68391006-001		Martin Marietta	Pin Photo Diode
1	707293		Magnavox	Fiber Test Set
1	70P187406-1005		McDonnell Douglas	Cable Assembly
1	70P187406-1009		McDonnell Douglas	Cable Assembly Intershelt.
1	70P187406-1011		McDonnell Douglas	Cable Assembly Test
1	70P187406-1013		McDonnell Douglas	FO Cable Assembly Intershelt.
1	70P187407-2009		McDonnell Douglas	Cable Assembly
1	7908100-01		Sperry Univac	Transmitter
1	7908217-00		Sperry Univac	Receiver
2	801-101-5008	801-101-5008	Amphenol	Connector (8 Fiber Receptacle)
2	801-102-5008	801-102-5008	Amphenol	Connector (8 Fiber Plug)
1	801-120-5004	801-120-5004	Amphenol	Connector
1	801-120-5006	801-120-5008	Amphenol	Connector
1	801-120-5029	801-120-5029	Amphenol	Connector
1	801-999-5029		Amphenol	Connector
1	801-999-5031	801-999-5031	Amphenol	Connector
1	812099-801		Spectronics	Transmitter
1	905 Series		Amphenol	Connector
2	905-120-5000		Amphenol	Connector
1	905-135-5001	905-135-5001	Amphenol	Connector
1	905-135-5080	905-135-5080	Amphenol	Connector: SMD
1	906 Series		Amphenol	Connector
2	906-110-5001		Amphenol	Connector
1	906-110-5013		Amphenol	Connector (Single Fiber)
2	906-110-5020	906-110-5020	Amphenol	Connector (Single Fiber Plug)
1	906-110-5026		Amphenol	Connector
1	906-110-6009		Amphenol	Connector-to-Connector Adaptor
1	906-110-6016		Amphenol	Connector SMA Type
1	909-100-SPECIAL		Amphenol	Connector
2	909-116-02	909-116-02	Amphenol	Connector
1	95-1344020-1		Epoxy Techonology	Connector Contacts
1	96002-97		Hughes Connector	Field Termination Kit
1	97006		Meret	Connector
1	9715			Polishing Tool
1	98805		Meret	SMA Connector
1	AM00206		Raychem Corporation	Cable
1	AM00207		Raychem Corporation	Cable
1	AQ-1905		Ando Corporation	Optical Power Meter Head

#	COMMERCIAL#	MILITARY#	VENDOR	DESCRIPTION
1	AQ-1906		Ando Corporation	Optical Power Meter Head
1	Amphenol 906		Amphenol	Connectors
1	B567		ITT EOPD	Cable Assembly
1	BB-2135D		TRA-CON Incorporated	Epoxy
1	C-21 Series		Hughes	Connector
1	C-402131		American Optical	Cable
1	C03-40155-08-01/07		Valtec	8 Fiber Cable
3	C03-50002-02-00		Valtec	Cable (2 Fiber)
1	C03-55018-02-02		Valtec	Cable (2-Fiber)
3	C30122		RCA	Source: LED
1	C30123-19	12271686	RCA	Source: LED
3	C30133		RCA	Source: LED
4	C30808		RCA	Detector: PIN
2	C30817	12272667	RCA	Detector: APD
1	C30920E		RCA	Detector: PIN
1	C309212		RCA	Detector: APD
1	C30921E		RCA	Detector: APD
1	C30921F		RCA	APD
1	DW1000/08E		Deutsch	Connector
1	DW9004		Deutsch Company	Fiberoptic Kit
1	EPO-TEK-330		Epoxy Technology	Epoxy
1	FOMC-T-05-1219		ITT Cannon	Connector
1	FOMC-T-05-1250		ITT Cannon	Connector
1	FOMC-T-05-1270		ITT Cannon	Connector
1	FOMC-T-05-1300		ITT Cannon	Connector
1	FOMC-T-10-1250		ITT Cannon	Connector
1	FOMC-T-10-1270		ITT Cannon	Connector
1	FOMC-T-10-1300		ITT Cannon	Connector
1	FOMC-T-2W1A2-001		ITT Cannon	Connector
2	FOT110KG		Burr-Brown	Transmitter
1	FW-303-M1		Orionics Incorporated	Fusion Slicer
1	GO-ANA-820/TEC/MMG-50		General Optonics	Source: Laser Diode
1	GG-02-12		ITT EOPD	Fiber Graded Index Glass
1	GO-ANA		General Optonics	Laser Diode Analog Transmitter
1	GO-DIG		General Optonics	Laser Diode Digital Transmitter
1	HAPD008F		Hughes	APD
1	HFBR-1002		Hewlett Packard	Fiber Optic Transmitter
1	HFBR-2001		Hewlett Packard	Fiber Optic Receiver
1	HFBR-4000		Hewlett Packard	Single Fiber Connector
1	HP5082-4203		Hewlett Packard	Detector: LED
1	HR810F2		Plessey	Source: LED 850 nm
1	HRE7883XX2C		Plessey Optoelectronics	Source (LED; Pigtail)
1	IRE-160F		Laser Diode Labs	Source: LED
2	IRE-161		Laser Diode	Source LED
1	ITT-48S		Spectronics	Pig Tail
1	LDT-304		Laser Diode	LED (Lensed)
1	LG-PM-118-016B		Skia Corporation	Fiber Optic Assembly
1	MG05-40145-1		Valtec	Cable (10 Fiber)
1	MNT-769776-1		RCA	Pin Diode
1	MNT-769776-1		RCA	Detector: PIN
1	OFF-FJA-XX		ITT EOPD	Terminus Ferrule
1	OFJ-01		ITT EOPD	Receptacle Fiber-to-Fiber
1	OFF-01		ITT EOPD	Plug; Single Fiber

#	COMMERCIAL#	MILITARY#	VENDOR	DESCRIPTION
1	OR4000		IOS	Receiver
1	OT4000		IOS	Transmitter
1	Optimate 905 Series		AMP	Connectors
1	PIFAX PIR-140		DuPont	Cable; Multimode Step
1	PIFAX-120		DuPont	Cable
1	Q-DF-005-T		Lasertron	Receiver: PIN
1	QDF-20T		Lasertron	Detector
1	QFBR-2079		Hewlett Packard	Receiver
2	QLED-1300-P		Lasertron	Source: LED
1	QP-123		Laser Diode Labs	Source
1	R300A-P-Input		Versitron Incorporated	Analog Isolator
2	R300A-P-Output		Versitron Incorporated	Analog Isolator
1	RD-1000		Math Associates	Receiver
1	RT-213544		ITT EOPD (Litton)	Coupler Star
1	S6420R		Spectran	Cable
1	SC-2		Siecor	Splicebox
1	SC5-SMA2		Meret	5 Meters-Pig Tailed Assembly
1	SD3322		Spectronics	Source: Laser Diode
1	SG-2001		Laser Diode Labs	Detector
1	SG320-224R		Spectran	Fiber 140/100
1	SIF-1		Meret	Pig Tail Connector
1	SK0790510		Hughes	Multifiber Plug
1	SK0790511		Hughes	Receptacle; Multifiber
1	SM-C-801147-2		American Optical	Cable
1	SMA 905		Amphenol	Connector
1	SPX-3189-102		Spectronics	Transmitter
1	SPX-3619-1		Spectronics	Transmitter
1	SPX-3620-1		Spectronics	Receiver
2	SPX-4140		Spectronics	Transmitter
1	SPX-4140-202		Honeywell Optoelectronics	Transmitter
2	SPX-4141		Spectronics	Receiver
1	SPX-4141-203		Honeywell Optoelectronics	Receiver
1	SPX-4996-122	SPX-4996-122	Honeywell Optoelectronics	Cable
2	Special	86-1346100-4	Valtec	Cable
3	T-1221		ITT EOPD	Fiber Graded Index
2	T-1224		ITT EOPD	Fiber (Graded Index)
1	T-2501-02-1224		ITT EOPD	Cable (Graded Index)
1	T-2501-04-1222C		ITT EOPD	6 Fiber Cable
1	T-2501-04-1224		ITT EOPD	Cable Graded Index Glass
1	T-2501-04-1262A	T-2501-04-1262A	ITT EOPD	4 Fiber Cable
2	T-2501-06-1221		ITT EOPD	Cable Graded Index Glass
1	T-2501-06-1223		ITT EOPD	Cable (Graded Index)
1	T-2502-06-1312C		ITT EOPD	Cable; 6-Fiber; 140/100
1	T-3101-01-1312		ITT EOPD	Cable; 1-Fiber
1	T-3500-04-1202		ITT EOPD	Cable Graded Index Glass
1	T-3500-07-1201		ITT EOPD	Cable Graded Index Glass
2	T-3500-08-1201		ITT EOPD	Cable Graded Index Glass
1	T-6016		ITT EOPD	Transmitter
1	T-601C		ITT EOPD	Transmitter
2	T-607B		ITT EOPD	Receiver
2	T-7521		ITT EOPD	Source: LED
1	T6011		ITT EOPD	Transmitter
1	T6086		ITT EOPD	Receiver

<u>#</u>	<u>COMMERCIAL#</u>	<u>MILITARY#</u>	<u>VENDOR</u>	<u>DESCRIPTION</u>
1	TD9901		Laser Precision	OTDR
1	XD-1000		Math Associates	Transmitter

APPENDIX 7B

FIBER OPTIC COMPONENTS BEING USED BY KEY SYSTEMS

System 004. Vandenburg Missile Test Site Transmission System

1. Plug Connector 16-Position
Part#: 1143135S-8038
Specs:
Comments:
Vendor: Hughes
Milt.#:
2. Connector Receptacle 16 Termini
Part#: 1143136S-8038
Specs:
Comments:
Vendor: Hughes
Milt.#:
3. Connector Strain Relief
Part#: 1143295S
Specs:
Comments:
Vendor: Hughes
Milt.#:
4. Pin Diode
Part#: 250513L
Specs:
Comments:
Vendor: GTE Labs
Milt.#:
5. Laser Diode
Part#: 631113D
Specs:
Comments:
Vendor: GTE Labs
Milt.#:
6. Cable
Part#:
Specs:
Comments: 147 KM (1; 6; and 8) channel graded indexed gel-filled cables
Vendor: Valtec
Milt.#:
7. APD
Part#: C30921F
Specs:
Comments:
Vendor: RCA
Milt.#:
8. APD
Part#: HAPD008F
Specs:
Comments:
Vendor: Hughes
Milt.#:

System 013. AN/TPN-19

- | | |
|---|--|
| 1. Fiber (Graded Index)
Part#: T-1224
Specs:
Comments: 1; 5 Km lengths | Vendor: ITT EOPD
Milt.#: |
| 2. Cable (Graded Index)
Part#: T-2501-02-1224
Specs: T2000-02-1224
Comments: 1; 5 Km lengths | Vendor: ITT EOPD
Milt.#: |
| 3. Connector
Part#: 1143944S
Specs:
Comments: | Vendor: Hughes
Milt.#: |
| 4. Transmitter
Part#: T6011
Specs:
Comments: | Vendor: ITT EOPD
Milt.#: |
| 5. Receiver
Part#: T6086
Specs:
Comments: | Vendor: ITT EOPD
Milt.#: |
| 6. Connector (SMA)
Part#: 906-110-5001
Specs:
Comments: | Vendor: Amphenol
Milt.#: |
| 7. Transmitter
Part#: SPX-4140
Specs:
Comments: | Vendor: Honeywell Optoelectronics
Milt.#: |
| 8. Receiver
Part#: SPX-4141
Specs:
Comments: | Vendor: Honeywell Optoelectronics
Milt.#: |
| 9. Pigtail Cables (2 Channel)
Part#: 1143747S
Specs:
Comments: | Vendor: Hughes
Milt.#: |

System 027. TAOC-85; Modular Control Element (MCE) Air Force Version

- | | |
|---|--------------------------------------|
| 1. 6 Fiber Cable
Part#: T-2501-04-1222C
Specs:
Comments: | Vendor: ITT EOPD
Milt.#: |
| 2. Connector (Hermaphroditic)
Part#: 1127029S
Specs:
Comments: | Vendor: Hughes
Milt.#: |
| 3. Source: LED
Part#: T-7521
Specs:
Comments: | Vendor: ITT EOPD
Milt.#: |
| 4. Detector: LED
Part#: HP5082-4203
Specs:
Comments: | Vendor: Hewlett Packard
Milt.#: |
| 5. Detector: APD
Part#: C309212
Specs:
Comments: | Vendor: RCA
Milt.#: |
| 6. Coupler Star
Part#: RT-213544
Specs:
Comments: | Vendor: ITT EOPD (Litton)
Milt.#: |
| 7. 4 Fiber Cable
Part#:
Specs:
Comments: 2 Km lengths | Vendor: ITT EOPD
Milt.#: |
| 8. Connector Covers
Part#: 1127038S
Specs:
Comments: | Vendor: Hughes
Milt.#: |
| 9. Dust Cover
Part#: 1143338S
Specs:
Comments: | Vendor: Hughes
Milt.#: |
| 10. Cable Assembly
Part#: 2204506-04
Specs:
Comments: | Vendor: Ampex Corporation
Milt.#: |
| 11. Cable Assembly
Part#: 2204506-07
Specs:
Comments: | Vendor: Ampex Corporation
Milt.#: |

System 039. Tactical Generic Cable Replacement

1. 2 Fiber Cable
Part#: Vendor: Siecor
Specs: Milt.#:
Comments: Mud Box Version (6.3 Km)
2. Source: LED (1300 nm)
Part#: Vendor: Lasertron
Specs: Milt.#:
Comments: Mud Box Version
3. Connectors
Part#: Vendor: TBD
Specs: Milt.#:
Comments: Mud Box Version
4. 2 Fiber Cable
Part#: Vendor: Siecor
Specs: Milt.#:
Comments: Connector Version (6.3 Km)
5. Source: LED (1300 nm)
Part#: Vendor: Lasertron
Specs: Milt.#:
Comments: Connector Version
6. Connectors
Part#: Vendor: Hughes
Specs: Milt.#:
Comments: Connector Version
7. Detector: PIN
Part#: Vendor: Lasertron
Specs: Milt.#:
Comments:

System 114. TACS Part of 407L See AN/TPS-43E

- | | |
|--|--|
| 1. Cable (2 Fiber)
Part#: C03-50002-02-00
Specs:
Comments: | Vendor: Valtec
Milt.#: |
| 2. Connector (2 Position Hermaphroditic)
Part#: 1143582S
Specs:
Comments: | Vendor: Hughes
Milt.#: |
| 3. Fusion Slicer
Part#: FW-303-M1
Specs:
Comments: | Vendor: Orionics Incorporated
Milt.#: |
| 4. Pig Tail
Part#: ITT-48S
Specs:
Comments: | Vendor: Spectronics
Milt.#: |
| 5. 5 Meters-Pig Tailed Assembly
Part#: SC5-SMA2
Specs:
Comments: | Vendor: Meret
Milt.#: |
| 6. Pig Tail Connector
Part#: SIF-1
Specs:
Comments: | Vendor: Meret
Milt.#: |
| 7. Cable Graded Index Glass
Part#: T-2501-04-1224
Specs:
Comments: | Vendor: ITT EOPD
Milt.#: |
| 8. OTDR
Part#: TD9901
Specs:
Comments: | Vendor: Laser Precision
Milt.#: |
| 9. Connector Termini Pin
Part#: 1093201-051F-110S
Specs:
Comments: | Vendor: Hughes Connector
Milt.#: |
| 10. Connector Termini Pin
Part#: 1093201-050F-100S
Specs:
Comments: | Vendor: Hughes Connector
Milt.#: |

- | | |
|---|-------------------------------------|
| 11. Contact Termini Pin
Part#: 1093201-056F-200S
Specs:
Comments: | Vendor: Hughes Connector
Milt.#: |
| 12. Pin Termini
Part#: 1093201-057F
Specs:
Comments: | Vendor: Hughes Connector
Milt.#: |
| 13. Connector Termini Socket
Part#: 1093201-051F-110S
Specs:
Comments: | Vendor: Hughes Connector
Milt.#: |
| 14. Connector Termini Socket
Part#: 1093201-056F-200S
Specs:
Comments: | Vendor: Hughes Connector
Milt.#: |
| 15. Retainer Straps
Part#: 1143045-4S
Specs:
Comments: | Vendor: Hughes Connector
Milt.#: |
| 16. Retainer Straps
Part#: 1143045-5S
Specs:
Comments: | Vendor: Hughes Connector
Milt.#: |
| 17. Hermaphroditic Connector
Part#: 1143099-1S
Specs:
Comments: | Vendor: Hughes Connector
Milt.#: |
| 18. Termini Hermaphroditic Receptacle
Part#: 1143584-4S
Specs:
Comments: | Vendor: Hughes Connector
Milt.#: |
| 19. 2&4 Nonenvironmental Dust Cover
Part#: 1143588-2S
Specs:
Comments: | Vendor: Hughes Connector
Milt.#: |
| 20. Kit; Connector Field Termination
Part#: 1143610S
Specs:
Comments: | Vendor: Hughes Connector
Milt.#: |
| 21. Test Plug
Part#: 1143686-2S
Specs:
Comments: | Vendor: Hughes Connector
Milt.#: |

22. Test Plug Part#: 1143810-1S Specs: Comments:	Vendor: Hughes Connector Milt.#:
23. Hermaphroditic Bulkhead Connector Part#: 1143812S Specs: Comments:	Vendor: Hughes Connector Milt.#:
24. Hermaphroditic Connector Part#: 1143816S Specs: Comments:	Vendor: Hughes Connector Milt.#:
25. Cable Part#: 345 Specs: Comments:	Vendor: ITT Corp Milt.#:
26. Fiber Optic Fibers Part#: 5002 Specs: Comments:	Vendor: Valtec Milt.#:
27. Epoxy Part#: 51004 Specs: Comments:	Vendor: Milt.#:
28. Nutting Pliers Part#: 51006 Specs: Comments:	Vendor: Milt.#:
29. 600 Grit Silicon Carbide Part#: 51011 Specs: Comments:	Vendor: Milt.#:
30. Field Termination Kit Part#: 96002-97 Specs: Comments:	Vendor: Hughes Connector Milt.#:
31. Connector Part#: 97006 Specs: Comments:	Vendor: Meret Milt.#:
32. Polishing Tool Part#: 9715 Specs: Comments:	Vendor: Milt.#:

33. SMA Connector Part#: 98805 Specs: Comments:	Vendor: Meret Milt.#:
34. Hermaphroditic Connector 2 Termini Part#: 1143099-2S Specs: Comments:	Vendor: Hughes Milt.#:
35. Bulkhead Connector Part#: 1143100-4S Specs: Comments:	Vendor: Hughes Milt.#:
36. Hermaphroditic Bulkhead Connector Part#: 1143102S Specs: Comments:	Vendor: Hughes Milt.#:
37. Kit; Connector Field Term Part#: 1143110S Specs: Comments:	Vendor: Hughes Milt.#:
38. Dust Caps Part#: 1143132S Specs: Comments:	Vendor: Hughes Milt.#:
39. Bulkhead Connector Part#: 1143182-1S Specs: Comments:	Vendor: Hughes Milt.#:
40. Receptacle Assembly Part#: 1143341S Specs: Comments:	Vendor: Hughes Milt.#:
41. Cable Assembly Part#: 1143342S Specs: Comments:	Vendor: Hughes Milt.#:
42. Cable Assembly Part#: 1143375S Specs: Comments:	Vendor: Hughes Milt.#:
43. Hermaphroditic Bulkhead Part#: 1143376S Specs: Comments:	Vendor: Hughes Milt.#:

44. Connector 2 Channel; Assembly
Part#: 1143376S
Specs:
Comments:

Vendor: Hughes
Milt.#:

45. Hermaphroditic Bulkhead 2 Channel
Part#: 1143583-4S
Specs:
Comments:

Vendor: Hughes
Milt.#:

46. 2&4 Termini Hermaphroditic Receptacle
Part#: 1143584-2S
Specs:
Comments:

Vendor: Hughes
Milt.#:

47. 2&4 Termini Hermaphroditic Receptacle
Part#: 1143584-4F
Specs:
Comments:

Vendor: Hughes
Milt.#:

System 096. OASIS

1. 4400 Data Communications System. Vendor: Optelecom.
Part#: 4400 Com System. Milt.#:
Specs: 102120020 Functional Spec TUI-1(1/29/82)
Comments: RS-232 Optical Link. Contract #F19628-78-C-0053

System 044. AN/TPS-43E Radar; Fiber Optic Remote Radar Kit (FORRK)

- | | |
|------------------------|-----------------------------------|
| 1. Digital Receiver | Vendor: Honeywell Optoelectronics |
| Part#: | Milt.#: HFM 1510-222 |
| Specs: | |
| Comments: | |
| 2. Digital Transmitter | Vendor: Honeywell Optoelectronics |
| Part#: | Milt.#: HFM 2010-224 |
| Specs: | |
| Comments: | |
| 3. Analog Receiver | Vendor: Honeywell Optoelectronics |
| Part#: | Milt.#: HFM 3502-222 |
| Specs: | |
| Comments: | |
| 4. Digital Transmitter | Vendor: Honeywell Optoelectronics |
| Part#: | Milt.#: HFM 4002-223 |
| Specs: | |
| Comments: | |
| 5. Pigtail Assembly | Vendor: |
| Part#: | Milt.#: 8123795 |
| Specs: | |
| Comments: | |
| 6. Connector | Vendor: Hughes |
| Part#: 1143582-15 | Milt.#: |
| Specs: | |
| Comments: | |
| 7. 4 Fiber Cable | Vendor: ITT EOPD |
| Part#: T-2501-04-1262A | Milt.#: T-2501-04-1262A |
| Specs: | |
| Comments: | |
| 8. Dustcover | Vendor: Hughes |
| Part#: 1143586-5 | Milt.#: 1143586-5 |
| Specs: | |
| Comments: | |
| 9. Bulkhead Connector | Vendor: Hughes |
| Part#: 1143584-5 | Milt.#: 1143584-5 |
| Specs: | |
| Comments: | |
| 10. Cable | Vendor: Honeywell Optoelectronics |
| Part#: SPX-4996-122 | Milt.#: SPX-4996-122 |
| Specs: | |
| Comments: | |

System 129. ASOC (Air Support Operation Center)

1. Connectors (2 and 4 pin) Vendor: Hughes
Part#: 1143582S Milt.#:
Specs:
Comments: Production will commence in FY84
2. Source: LED (820 nm) Vendor: Honeywell
Part#: Milt.#:
Specs:
Comments:
3. Detector: PIN (820 nm) Vendor: Honeywell
Part#: Milt.#:
Specs:
Comments:
4. Cable Vendor: Valtec
Part#: C03-50002-02-00 Milt.#:
Specs:
Comments: 14 Km; (2) Channel Ruggedized Field Cable
5. Environmental Dust Cover (2 and 4) Vendor: Hughes
Part#: 1143586S Milt.#:
Specs:
Comments:
6. Non-Environmental Dust Cover Vendor: Hughes
Part#: 1143588S Milt.#:
Specs:
Comments:

APPENDIX 8

COMPONENT PERFORMANCE CHARTS BY STOCK CLASS

**6010
(FIBER)**

[illegible]

6015

CABLE DESCRIPTION

6015

SOURCES		PART NUMBER		CABLE DESCRIPTION			
MANUFACTURER	COMMERCIAL	MILITARY	# OF FIBERS	DIAMETER CORE/GLASSING	BANDWIDTH	TYPE OF FIBER	ATTENUATION
SIECOR	6578T/001		6	100/140	20 MHZ KM	Step Index	Max 10 dB
GALITE	542-21132*		1	100/140	20-45 MHZ KM	Step Index	Max 6 dB KM @ 850nm
GALILEO	3551200-45KZK						
DUPONT	PIFAX PIR -140#		(NO LONGER MANUFACTURED - NO WAY TO OBTAIN THIS INFORMATION)				
TEXAS INSTS	2768881-1						
AMER.OPTICAL	C-402131						
	SM-C-801147-2						
ITT GILFILLIAN	164820						

(FIBER CABLES, SINGLE & MULTIPLE)

[illegible]

6030 (F.O. TRANSMISSION DEVICES) (LED,ILD)

SOURCES	PART NUMBER		DEVICE TYPE	WAVELENGTH	SPECTRAL WIDTH	POWER OUTPUT
	COMMERCIAL	MILITARY				
ITT EOPD	T-7521		LED	840nm	50nm	1mw
RCA	C30122		LED	940nm	40nm	1mw
	C30123#	12271688	LED	830nm	40nm	1mw
	C30133 (2)		LED	820nm	40nm	200mw
	C30119#		LED	850nm	40nm	.5mw
MARTIN MARIETTA	68391005-001		LED			
GTE LABS	6311130		LASER DIODE			
MATH ASSOCIATES	XD-1000 (1)		LED	820nm		
HEWLETT PACKARD	HFBR-1002 (1)		LED	820nm		100uw
GENERAL OPTRONICS	GO-ANA (1)		LASER DIODE	800-1300nm	.84nm	2mw
	GO-DIG (1)		LASER DIODE	800-1300nm	.84nm	2mw
BURR-BROWN	FOT110KG (1)				25nm	10uw
OIS	OT4000 (1)			830nm		125uw

6030

(F.O. TRANSMISSION DEVICES) (LED,ILD)

SOURCES	PART NUMBER		DEVICE TYPE	WAVELENGTH	SPECTRAL WIDTH	POWER OUTPUT
	COMMERCIAL	MILITARY				
ITT EOPD	T-6016#					
	T-601C					
	T-6011					
CODENOLL TECH	CODELINK 0.25M	626702-1	LED	830nm		
HONEYWELL OPTOEL.	NFM-2010-224 (1)		LED			
	NFM-4002-223 (1)					
SM-ALC		2000-001				
ITT GILFILLIAN	188216					
GRASS VALLEY	3290-201 (1)		LED	920nm		
SPECTRONICS	SE4352		LED	820nm		500uw
	SPX-3189-102					
	SPX-3619-1		IC			
	SPX-4140		LED			
	812099-801					
SPERRY UNIVAC	7908100-01					

6030

[illegible]

6030

(F.O. RECEIVERS,PIN,APD)

SOURCES	PART NUMBER		DEVICE TYPE	WAVELENGTH	SENSITIVITY	DYNAMIC RANGE
	COMMERCIAL	MILITARY				
HONEYWELL	HFM-1510-222	HFM-1510-222				
OPTOELECTRONIC	HFM-3502-222	HFM-3502-222				
SPECTRONICS	SE4324		PIN	820nm	.2uw	
	SPX-3620-1		IC			30dB
	SPX-4141		PIN	820nm	.2uw	
ITT GILFILLAN	188217					
SM-ALC	3000-001					
GRASS VALLEY	3290-2020 (1)		APD			
	(RCA C30902E)					
SPERRY UNIVAC	7908217-00					
HEWLETT PACKARD	HFB-2001 (1)		PIN	770nm	.87w	23dB
	HFB-2079					
	HP52082-4203		PIN	820nm		
OIS	OR4000 (1)		PIN	820nm	20dbm	

6030

(F.O. RECEIVERS,PIN,APD)

SOURCES	PART NUMBER		DEVICE TYPE	WAVELENGTH	SENSITIVITY	DYNAMIC RANGE
	COMMERCIAL	MILITARY				
LASERTRON	Q-DF-005-T		PIN FET		50dbm	40dB
	Q-DF-20T		PIN FET		-46dbm	40dB
CODENOLL TECH	CODELINK .25m	626702-2	PIN	830nm	-43dbm	34dB
RCA	MNT-769776-1		PIN			
	C30921F		APD	900nm		
	G30921E		APD			
	C309212		APD			
	C30920E		PIN			
	C30817	12272667	APD	400-1100nm		
	C30808		PIN			
GTE LABS	250513L		PIN			
METAVAC INC.	1704-XX		FILTER			
	192-0033-020		FILTER			
LASER DIODE LABS	SG-2001					
MARTIN MARRIETA	68391006-001		PIN			
MATH ASSOCIATES	RD-1000 (1)		PIN	820nm		
ITT EOPD	T-607B #		APD			
	T-6086 #		APD			

6020

DESCRIPTION

6020

[illegible]

SPECIAL — NO LONGER MANUFACTURED

6060

[illegible]

6060

INTERCONNECTION DEVICES					
SOURCES	PART NUMBER		INTERCONNECTION TYPE	# OF FIBERS TERMINATIONS	INSERTION LOSS (DB)
MANUFACTURER	COMMERCIAL	MILITARY			
AMPHENOL	801-101-5008	801-101-5008			
	801-102-5008	801-102-5008	cable	8	3 dB
	801-120-5004	801-120-5004	PC mount		
	801-120-5008	801-120-5008			
	801-120-5029	801-120-5029			
	801-999-5029		PC mount	1	.8 -1.5 dB
	801-999-5031	801-999-5031	PC mount	1	.8 -1.5 dB
	905-120-5000		SMA (aluminum)		.8 -1.5 dB
	905-135-5001	905-135-5001	SMA (aluminum)		.8 -1.5 dB
	905-135-5080	905-135-5080	SMA (aluminum)		.8 -1.5 dB
	906-110-5001		SMA (stainless)		.8 -1.5 dB
	906-110-5013		SMA (stainless)		.8 -1.5 dB
	906-110-5020	906-110-5020	SMA (stainless)		.8 -1.5 dB
	906-110-5026		SMA (stainless)		.8 -1.5 dB
	906-110-6009		SMA (stainless)		.8 -1.5 dB
	906-110-6016		SMA (stainless)	1	.8 -1.5 dB
	909-100-Special				

6060
(INTERCONNECTION DEVICES)

SOURCES	PART NUMBER		INTERCONNECTION TYPE	# OF FIBERS TERMINATIONS	INSERTION LOSS (DB)	
	COMMERCIAL	MILITARY				
AMPHENOL	909-116-02	909-116-02				
	227285-2					
ITT EOPD	55910					
	0006507					
	0006509					
	0FF-FJA-XX					
	0FJ-01					
	0FP-01					
ITT CANNON	FOMC-T-05-1219		Hermaphroditic	1	1.65 dB m average	
	FOMC-T-05-1250		Hermaphroditic	1	1.65 dB m average	
	FOMC-T-05-1270		Hermaphroditic	1	1.65 dB m average	
	FOMC-T-05-1300		Hermaphroditic	1	1.65 dB m average	
	FOMC-T-10-1250		Hermaphroditic	1	1.65 dB m average	
	FOMC-T-10-1270		Hermaphroditic	1	1.65 dB m average	
	FOMC-T-10-1300		Hermaphroditic	1	1.65 dB m average	
(1)	FOMC-T-2WIAZ-001		Hermaphroditic	1	1.65 dB m average	
	626498-130					
	626498-220					

0909

[illegible]

6060

[illegible]

(1) PIGTAIL

0909

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APPENDIX 9

SPECIFICATION ANALYSIS BY FEDERAL STOCK CLASS

6015

FIBER OPTIC CABLES (Single & Multiple)

AIR FORCE

Program: Vandenburg Transmission System

# of fibers	:	6
Diameter Core/Cladding	:	50 <u>+4um</u> /125 <u>+6um</u>
Attenuation	:	3.5 db/km @850nm 2.0 db/km @1300nm
Modal Dispersion	:	
Bandwidth	:	400MHz/km @850nm 400MHz/km @1300nm
Lengths	:	3,4,5,9 km
Fiber Type	:	Graded Index
Applicable Test or Specification	:	S-M-X-42046

Program: Vandenburg Transmission System

# of Fibers	:	8
Diameter Core/Cladding	:	50 <u>+4um</u> /125 <u>+6um</u>
Attenuation	:	4.0 db/km @ 850 nm
Modal Dispersion	:	
Bandwidth	:	200 MHz/km @ 850nm
Lengths	:	3,4,5,9 km
Fiber Type	:	Graded Index
Applicable Test or Specification	:	S-M-X-42046

Program: AN/FAC-2

# of Fibers	:	2
Diameter Core/Cladding	:	50/125um
Attenuation	:	Less than 9db/km
Modal Dispersion	:	Less than .4 n SEC/km
Bandwidth	:	
Lengths	:	1.5 km also random lengths of .5-4.5 km
Fiber Type	:	Graded Index
Applicable Test or Specification	:	NOSC TM-258

Program: AN/TPN-19

# of Fibers	:	2
Diameter Core/Cladding	:	50/125um
Attenuation	:	
Modal Dispersion	:	
Bandwidth	:	
Lengths	:	1Km
Fiber Type	:	Graded Index Glass
Applicable Test or Specification	:	T 2000-02-124 (ITT Spec) 404L-701-5106

Program: TAOC - 85 (MCE)

# of Fibers	:	4
Diameter Core/Cladding	:	50/125
Attenuation	:	5.0 db/km @ 820 nm
Modal Dispersion	:	2ns/km max.
Bandwidth	:	
Lengths	:	.5km, 2km
Fiber Type	:	
Applicable Test or Specification	:	

Program: TACTICAL GENERAL CABLE REPLACEMENT (TGCR)

# of Fibers	:	2
Diameter Core/Cladding	:	50 \pm 4um/125 \pm 6um
Attenuation	:	1.2 db/km @ 1300 nm
Modal Dispersion	:	
Bandwidth	:	600 MHz/km (-3db) @ 1300nm
Lengths	:	
Fiber Type	:	
Applicable Test or Specification	:	GTE Spec. #19-513835

Program: AN/GRC-206

# of Fibers	:	2
Diameter Core/Cladding	:	50/125 (+4um)
Attenuation	:	6db/km @850nm (+30nm)
Modal Dispersion	:	0 Over 3.3km
Bandwidth	:	400 MHz/km
Lengths	:	Tailored Assy, 50 feet (+6") Assy, Also 1km
Fiber Type	:	
Applicable Test or Specification	:	DOD-STD-1678 (test), modified per MMC-76 014E (Eng. Spec.)

Program: AN/TPS-43, 407L, AN/TSQ-91, AN/TSQ-61

# of Fibers	:	4
Diameter Core/Cladding	:	50/125
Attenuation	:	Less than 4 db/km
Modal Dispersion	:	
Bandwidth	:	200 MHz/km
Lengths	:	1km
Fiber Type	:	Graded Index
Applicable Test or Specification	:	S.O.W. SM-ALC (MMC) 82-053B

Program: AN/FPN-62

# of Fibers	:	3
Diameter Core/Cladding	:	50/125
Attenuation	:	Less than 6.0 db/km
Modal Dispersion	:	
Bandwidth	:	200 MHz/km
Lengths	:	1km
Fiber Type	:	
Applicable Test or Specification	:	1842 EEG/EEIT TR83-16-EZ

Program: ANALOG FIBER OPTIC MODEM

# of Fibers	:	4
Diameter Core/Cladding	:	50/125
Attenuation	:	Less than 5.5 db/km @850nm Less than 2.5 db/km @1300nm
Modal Dispersion	:	
Bandwidth	:	400 MHz/km @850nm 600 MHz/km @1300nm
Lengths	:	1km
Fiber Type	:	
Applicable Test or Specification	:	EPS-82-016B DOD-STD-1678 (Test) DOD-STD-84045/1 (Cable)

Program: DIGITAL FIBER OPTIC MODEM

# of Fibers	:	4
Diameter Core/Cladding	:	50/125
Attenuation	:	Less than 5.5 db/km @850nm Less than 2.5 db/km @1300nm
Modal Dispersion	:	
Bandwidth	:	400 MHz/km @850nm 600 MHz/km @1300nm
Lengths	:	1km
Fiber Type	:	
Applicable Test or Specification	:	EPS-82-001C DOD-OSTD-1678 (test) DOD-C-84045/1 (cable)

Program: TRI-TAC, MD-1206, AN/TTC-42, SB-3865, AN/GRC-201, AN/TRC-170,
TD-1234, AN/TTC-39, AN/TSQ-11

# of Fibers	:	2
Diameter Core/Cladding	:	
Attenuation	:	Less than 4.5 db/km
Modal Dispersion	:	
Bandwidth	:	400 MHz/km
Lengths	:	.3km, 1km
Fiber Type	:	
Applicable Test or Specification	:	FOTS-LH Cable specification CR-CS-0051-001 & Purchase Description for Fiber Optic Cable System (FOCS)

ARMY

Program: NAMESITE

# of Fibers	:	6
Diameter Core/Cladding	:	50/125
Attenuation	:	Less than 6db/km @ 850nm
Modal Dispersion	:	1ns/km @ 900nm
Bandwidth	:	
Lengths	:	2.5km
Fiber Type	:	Graded Index
Applicable Test or Specification	:	Namesite S.O.W. Document

Program: TRI-TAC, MD-1206, AN/TTC-42, SB-3865, AN/GRC-201,
AN/TRC-170, TD-1234, AN/TTC-39, AN/TSQ-11

# of Fibers	:	2
Diameter Core/Cladding	:	
Attenuation	:	Less than 4.5 db/km
Modal Dispersion	:	
Bandwidth	:	400 MHz/km
Lengths	:	.3km, 1km
Fiber Type	:	
Applicable Test or Specification	:	FOTS-LH Cable specification CR-CS-0051-001 & Purchase Description for Fiber Optic Cable System (FOCS)

Program: FOTS (LH)

# of Fibers	:	2
Diameter Core/Cladding	:	50/125um
Attenuation	:	4.5db/km
Modal Dispersion	:	
Bandwidth	:	400 MHz/km (-3db) @ 1300nm
Lengths	:	1km
Fiber Type	:	Graded Index
Applicable Test or Specification	:	CR-CS-0051-001

MARINES

Program: TAOC-85 (MCE)

# of Fibers	:	4
Diameter Core/Cladding	:	50/125
Attenuation	:	5.0 db/km @820nm
Modal Dispersion	:	2ns/km @ 820nm
Bandwidth	:	
Lengths	:	.5m, 2km
Fiber Type	:	
Applicable Test or Specification	:	

NAVY

Program: AV8-B

# of Fibers	:	1
Diameter Core/Cladding	:	50/125
Attenuation	:	1.5-30 db/km @900nm
Modal Dispersion	:	
Bandwidth	:	6-9 MHz/km
Lengths	:	500 feet min.
Fiber Type	:	Graded Index
Applicable Test or Specification	:	DOD-C-85045.

McDonnell Spec 5M 1945

Program: AN/FAC-2

# of Fibers	:	2
Diameter Core/Cladding	:	50/125
Attenuation	:	Less than 9db/km
Modal Dispersion	:	Less than 6.4n SEC/km
Bandwidth	:	
Lengths	:	1.5km also random lengths of .5-4.5km
Fiber Type	:	Graded Index
Applicable Test or Specification	:	NOSC TM-258

Program: AEGIS

# of Fibers	:	8
Diameter Core/Cladding	:	100/140
Attenuation	:	Less than 10db/km
Modal Dispersion	:	
Bandwidth	:	20 MHz/km
Lengths	:	1km
Fiber Type	:	Step Index
Applicable Test or Specification	:	PMS 400-XYZ-1

6030
Fiber Optic Devices
LED, ILD
AIR FORCE

Program: Digital Fiber Optic Modems

Device Type	:	LED
Wavelength	:	820-870 nm
Power Output	:	100 uw (-10 db)min
Spectral Line Width	:	40 nm (max)
Applicable Documents	:	EPS-82-001C

Program: Digital Fiber Optic Modems

Device Type	:	LED
Wavelength	:	1240-1330nm
Power Output	:	100 uw (-10 db) min
Spectrual Linewidth	:	40 nm (max)
Applicable Documents	:	EPS-82-001C

Program: Digital Fiber Optic Modems

Device Type	:	ILD
Wavelength	:	820-870 nm
Power Output	:	1 mw (odb) min
Spectral Linewidth	:	5 nm (max)
Applicable Documents	:	EPS-82-001C

Program Digital Fiber Optic Modem

Device Type	:	ILD
Wavelength	:	1240-1330nm
Power Output	:	1mw (odb) min
Spectral Linewidth	:	5nm (max)
Applicable Documents	:	EPS-82-001C

6030
Fiber Optic Devices
(LED,ILD)

Program: ANALOG F.O. MODEM

Device Type	:	LED
Wavelength	:	820-870 nm
Power Output	:	12 uw (-19 db) min
Spectral Linewidth	:	
Applicable Documents	:	EPS-82-016B

Program: ANALOG F.O. MODEM

Device Type	:	LED
Wavelength	:	1240 - 1330 nm
Power Output	:	12 uw (-19 db) min
Spectral Linewidth	:	
Applicable Documents	:	EPS-82-016B

Program: ANALOG F.O. MODEM

Device Type	:	ILD
Wavelength	:	820-870 nm
Power Output	:	1.0 mw (odb) min
Spectral Linewidth	:	
Applicable Documents	:	EPS-82-016B

Program: AN/FPN-62

Device Type	:	ILD
Wavelength	:	
Power Output	:	1mw (odb)
Spectral Linewidth	:	
Applicable Documents	:	1842 EEG/EEIT TR83-16-EZ

6030
FIBER OPTIC DEVICES
(LED,ILD)

Program: TRI-TAC, MD-1026, AN/TTC-42,SB-3865,AN/GRC-201, AN/TRC-170,
TD-1234, AN/TTC-39, AN/TSQ-11

Device Type	:	LED
Wavelength	:	1200-1300 nm
Power Output	:	
Spectral Linewidth	:	90 nm
Applicable Documents	:	ICD-018 12, Purchase Description for Fiber Optic Cable System (FOCS)

Program: AN/TPS - 43

Device Type	:	LED
Wavelength	:	820
Power Output	:	100 uw
Spectral Linewidth	:	
Applicable Documents	:	S.O.W. SM-ALC (MMC) 82-053B

Program: TACTICAL GENERIC CABLE REPLACEMENT (TGCR)

Device Type	:	LED
Wavelength	:	1270 \pm 20 nm
Power Output	:	.05 mw
Spectral Linewidth	:	80 nm \pm 10
Applicable Documents	:	GTE Spec #13-513749

Program VANDENBURG AFB, WESTERN SPACE & MISSILE CENTER

Device Type : ILD (Analog)
Wavelength : 850nm +30
Power Output :
Spectral Linewidth : 2nm
Applicable Documents : S-M-X-42045

Program: VANDENBURG AFB, LAUNCH SUPPORT BUILDING

Device Type : LED
Wavelength : 830nm +10
Power Output :
Spectral Linewidth : 50nm max.
Applicable Documents : S-M-X-42044

Program: VANDENBURG AFB, INSTALLATION & CHECKOUT FACILITY

Device Type : ILD
Wavelength : 850nm
Power Output : 2dbm @ 850 nm+30
Spectral Linewidth : Less than 2nm
Applicable Documents : S-M-X-42042

Program: VANDENBURG AFB, INSTALLATION & CHECKOUT FACILITY

Device Type : LED
Wavelength : 830nm +10
Power Output : -18dbm
Spectral Linewidth : Less than 50nm
Applicable Documents : S-M-X-42042

Program: VANDENBURG AFB, MISSILE ASSY. BUILDING

Device Type : LED
Wavelength : 830nm +10
Power Output : -18 dbm min.
Spectral Linewidth : 50nm
Applicable Documents : S-M-X-42043

Program: VANDENBURG AFB, INTEGRATED TEST FACILITY

Device Type	:	ILD
Wavelength	:	850nm <u>+30</u>
Power Output	:	-2dbm @ 850bn <u>+30</u>
Spectral Linewidth	:	Less than 2nm
Applicable Documents	:	S-M-X-42041A

Program: VANDENBURG AFB, AUTOMATED SAMPLED DATA INSTRUMENTAL SYSTEM

Device Type	:	ILD
Wavelength	:	850nm <u>+30nm</u>
Power Output	:	-3dbm <u>+1</u>
Spectral Linewidth	:	Less than 2nm
Applicable Documents	:	S-M-X-42137

Program: VANDENBURG AFB, AUTOMATED SAMPLED DATA INSTRUMENTATION SYSTEM

Device Type	:	LED
Wavelength	:	830nm <u>+10</u>
Power Output	:	Between -20dbm and 40dbm
Spectral Linewidth	:	50nm
Applicable Documents	:	S-M-X-42137

Program: VANDENBURG AFB, MX TEST SITE

Device Type	:	LED
Wavelength	:	
Power Output	:	50uw
Spectral Linewidth	:	
Applicable Documents	:	

Program: MFOX

Device Type	:	ILD (ANALOG)
Wavelength	:	
Power Output	:	1mw (0 dbm)
Spectral Linewidth	:	
Applicable Documents	:	Preliminary Development Requirements

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STANDARDIZATION PLAN FOR FIBER OPTICS OPTIONAL PHASE
VOLUME 3(U) INFORMATION GATEKEEPERS INC BOSTON MA 1984
F04606-82-C-1505

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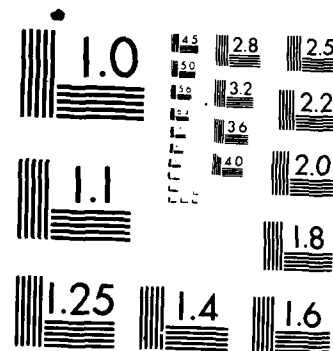
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Program: MFOX

Device Type	:	LED (DIGITAL)
Wavelength	:	
Power Output	:	50uw -13dBm
Spectral Linewidth	:	
Applicable Documents	:	Preliminary Development Requirements

Program: MFOX

Device Type	:	LED (Digital)
Wavelength	:	
Power Output	:	50uw (-13dbm)
Spectral Linewidth	:	
Applicable Documents	:	Preliminary Development Requirements

Program: MFOX

Device Type	:	ILD (Digital)
Wavelength	:	
Power Output	:	0 dbm (1mw)
Spectral Linewidth	:	
Applicable Documents	:	Preliminary Development Requirements

Program: MFOX

Device Type	:	ILD (Digital)
Wavelength	:	
Power Output	:	0 dbm (1mw)
Spectral Linewidth	:	
Applicable Documents	:	Preliminary Development Documents

Program: MFOX

Device Type	:	ILD
Wavelength	:	
Power Output	:	0 dbm (1mw)
Spectral Linewidth	:	
Applicable Documents	:	Preliminary Development Requirements

Program: FOTS (CH)

Device Type	:	LED
Wavelength	:	1300nm
Power Output	:	130 Mw
Spectral Linewidth	:	
Applicable Documents	:	CR-CS-0051-001 (FOR)

Program: VANDENBURG AFB, INTEGRATED TEST FACILITY

Device	:	LED
Wavelength	:	820nm <u>+10</u>
Power Output	:	-18dbm min
Spectral Linewidth	:	50nm
Applicable Documents	:	S-M-X-42041A

ARMY

Program: NAMESITE

Device Type	:	
Wavelength	:	820-900 nm
Power Output	:	
Spectral Linewidth	:	
Applicable Documents	:	Namesite S.O.W. Document

Program: TRI-TAC, MD-1026, AN/TTC-42, SB-3865, AN/GRC-201, AN/TRC-170, TD-1234, AN/TTC-39, AN/TSQ-11

Device Type	:	LED
Wavelength	:	1200-1300nm
Power Output	:	
Spectral Linewidth	:	90nm
Applicable Documents	:	ICD-01812, Purchase Description for Fiber Optic Cable System (FOCS)

Program: FOTS (LH)

Device Type	:	LED
Wavelength	:	1300nm
Power Output	:	130 MW
Spectral Linewidth	:	
Applicable Documents	:	CR-CS-0051-001 (RDA)

Program: FOTS (LH)

Device Type	:	LED
Wavelength	:	13.0nm
Power Output	:	130 MW
Spectral Linewidth	:	
Applicable Documents	:	CR-CS-0051-001 (FOR)

FIBER OPTIC DEVICES

(PIN, APD)

6030

AIR FORCE

Program: DIGITAL FIBER OPTIC MODEM

Device Type	:	PIN
Wavelength	:	820-870nm
Sensitivity	:	
Dynamic Range	:	28dB (min)
Applicable Documents	:	EPS-82-001C

Program: DIGITAL FIBER OPTIC MODEM

Device Type	:	PIN
Wavelength	:	1240-1330nm
Sensitivity	:	100nw (-40db0)min
Dynamic Range	:	28dB (min)
Applicable Documents	:	EPS-82-001C

Program: DIGITAL FIBER OPTIC MODEM

Device Type	:	APD
Wavelength	:	820-870nm
Sensitivity	:	10nw (-50db)min
Dynamic Range	:	30dB (min)
Applicable Documents	:	EPS-82-001C

Program: DIGITAL FIBER OPTIC MODEM

Device Type	:	APD
Wavelength	:	1240-1330nm
Sensitivity	:	10nw (-50db) min
Dynamic Range	:	30dB (min)
Applicable Documents	:	EPS-82-001C

Program: ANALOG FIBER OPTIC MODEM

Device Type	:	PIN
Wavelength	:	820-870nm
Sensitivity	:	.5uw (-33dB) min
Dynamic Range	:	30dB (min)
Applicable Documents	:	EPS-82-016B

Program: ANALOG FIBER OPTIC MODEM

Device Type	:	PIN
Wavelength	:	1240-1330nm
Sensitivity	:	.5uw (-33db0) min
Dynamic Range	:	30dB (min)
Applicable Documents	:	EPS-82-016B

Program: ANALOG FIBER OPTIC MODEM

Device Type	:	APD
Wavelength	:	820-870nm
Sensitivity	:	25nw (-46db) min
Dynamic Range	:	20dB (min)
Applicable Documents	:	EPS-82-006B

Program: AN/FPN-62

Device Type	:	APD
Wavelength	:	
Sensitivity	:	
Dynamic Range	:	-27 to -47dbm
Applicable Documents	:	1842 EEG/EEIT TR83-16-EZ

Program: TRI-TAC, MO-1026, AN/TTC-42, SB-3865, AN/GRC-201, AN/TRC-170, TD-1234, AN/TTC-39, AN/TSQ-11

Device Type	:	PIN
Wavelength	:	1200-1300nm
Sensitivity	:	suitable for communications over 6km
Dynamic Range	:	
Applicable Documents	:	ICD-108, Purchase Description for Fiber Optic Cable System (FOCS)

Program: AN/TPS-43

Device Type	:	APD
Wavelength	:	820
Sensitivity	:	10nw
Dynamic Range	:	20db
Applicable Documents	:	S.O.W. SM-ALC (MMC) 82-053B

Program: VANDENBURG AFB MX, TEST SITE

Device Type	:	APD
Wavelength	:	820nm
Sensitivity	:	.5uw
Dynamic Range	:	
Applicable Documents	:	

Program: VANDENBURG AFB, MX TEST SITE

Device Type	:	PIN
Wavelength	:	820nm
Sensitivity	:	.5uw
Dynamic Range	:	
Applicable Documents	:	

Program: TACTICAL GENERAL CABLE REPLACEMENT (TCGR)

Device Type	:	PIN FET
Wavelength	:	1250-1300nm
Sensitivity	:	-45dbm min
Dynamic Range	:	
Applicable Documents	:	GTE Spec. #15-513880

Program: VANDENBURG AFB, LAUNCH SUPPORT BUILDING

Device Type : APD
Wavelength : 810-880nm
Sensitivity : 55dbm for BER of 10^{-9} max.
Dynamic Range : 23dB (min)
Applicable Documents : S-M-X 42044

Program: VANDENBURG AFB, INSTALLATION CHECKOUT FACILITY

Device Type : APD
Wavelength : 810-880nm
Sensitivity : 55dbm for BER of 10^{-9} max.
Dynamic Range : 23dB (min)
Applicable Documents : S-M-X 42042

Program: VANDENBURG AFB, MISSILE ASSY. BUILDING

Device Type : APD
Wavelength : 810-880nm
Sensitivity : 55dbm for BER of 10^{-9}
Dynamic Range : 23dB (min)
Applicable Documents :

Program: VANDENBURG AFB, MISSILE ASSY. BUILDING

Device Type : PIN
Wavelength : 810-880nm
Sensitivity : 33dbm for BER of 10^{-9}
Dynamic Range : 23dB (min)
Applicable Documents : S-M-X 42043

Program: VANDENBURG AFB, INTEGRATED TEST FACILITY

Device Type : APD (Digital)
Wavelength : 810-880nm
Sensitivity : 55dbm for BER of 10^{-9}
Dynamic Range : 23dB (min)
Applicable Documents : S-M-X 42041

Program: VANDENBURG AFB, INTEGRATED TEST FACILITY

Device Type : APD (Analog)
Wavelength : 810-880nm
Sensitivity : 30dbm for optical range
over 810-880nm
Dynamic Range : 15dbm
Applicable Documents : S-M-X 42041

Program: VANDENBURG AFB, INTEGRATED TEST FACILITY

Device Type : PIN
Wavelength : 810-880nm
Sensitivity : 33dbm for BER 10^{-9}
Dynamic Range : 23dB (min)
Applicable Documents : S-M-X 42041

Program: VANDENBURG AFB, AUTOMATED SAMPLE DATA INSTRUMENTATION SYSTEM

Device Type : APD
Wavelength : 810-880nm
Sensitivity : 53dbm for BER of 10^{-9}
Dynamic Range : 23dbm
Applicable Documents : S-M-X 42137

Program: MFOX

Device Type : APD (Analog)
Wavelength :
Sensitivity : -46dBm
Dynamic Range :
Applicable Documents : Preliminary Development
Requirements

Program: MFOX

Device Type	:	PIN
Wavelength	:	
Sensitivity	:	-35dbm
Dynamic Range	:	30dbm
Applicable Documents	:	Preliminary Development Requirements

Program: MFOX

Device Type	:	PIN
Wavelength	:	
Sensitivity	:	35dbm
Dynamic Range	:	30dbm
Applicable Documents	:	Preliminary Development Requirements

Program: MFOX

Device Type	:	PIN
Wavelength	:	
Sensitivity	:	-30dbm
Dynamic Range	:	20dbm(min)
Applicable Documents	:	Preliminary Development Requirements

Program: MFOX

Device Type	:	APD
Wavelength	:	
Sensitivity	:	-50dbm
Dynamic Range	:	30db min.
Applicable Documents	:	Preliminary Development Requirements

Program: MFOX

Device Type	:	APD
Wavelength	:	
Sensitivity	:	-50dbm
Dynamic Range	:	30db min.
Applicable Documents	:	Preliminary Development Requirements

Program: MFOX

Device Type	:	APD
Wavelength	:	
Sensitivity	:	-45dbm
Dynamic Range	:	20db min
Applicable Documents	:	Preliminary Development Requirements

Program: FOTS (LH)

Device Type	:	PIN FET
Wavelength	:	1300nm
Sensitivity	:	-46dbm avg.
Dynamic Range	:	
Applicable Documents	:	CR-CS-0051-001 (ROA)

Program: FOTS (LH)

Device Type	:	PIN FET
Wavelength	:	1300nm
Sensitivity	:	-46dbm avg.
Dynamic Range	:	
Applicable Documents	:	CR-CS-0051-001 (FOR)(OIL)

Program: VANDENBURG AFB, LAUNCH SUPPORT BUILDING

Device Type	:	PIN
Wavelength	:	
Sensitivity	:	33dbm per BER of 10^{-9} max
Dynamic Range	:	23db min.
Applicable Documents	:	S-M-X-42044

6030
FIBER OPTIC DEVICES
(PIN, APD)
ARMY

Program: NAMESITE

Device Type	:	
Wavelength	:	820-900nm
Sensitivity	:	
Dynamic Range	:	
Applicable Documents	:	Namesite S.O.W. Document

Program: TRS-TAC, MO-1026, AN/TTCD-42, SB-3865, AN/GRC-201, AN/TRC-170,
TD-1234, AN/TTC-39, AN/TSQ-11

Device Type	:	PIN
Wavelength	:	1200-1300nm
Sensitivity	:	suitable for communications over 6km
Dynamic Range	:	
Applicable Documents	:	ICD-18, Purchase Description for Fiber Optic Cable System (FOCS)

Program: FOTS (LH)

Device Type	:	PIN-FET
Wavelength	:	1300nm
Sensitivity	:	-46dbm avg.
Dynamic Range	:	
Applicable Documents	:	CR-CS-0051-001 (ROA)

Program: FOTS (LH)

Device Type	:	PIN-FET
Wavelength	:	1300nm
Sensitivity	:	-46dbm avg.
Dynamic Range	:	
Applicable Documents	:	CR-CS-0051-001 (FOR)

6060
FIBER OPTIC INTERCONNECTORS
AIR FORCE

Program: AN/GRC-206

Type	:	Hermaphroditic
# of Contacts	:	2
Insertion Loss (db)	:	Less than 2 @850nm (+30)
Repeatability	:	Less than $\pm .5$
Applicable Test or	:	Mil-STD-202 (Test) As per
Construction Specifications		MMC-76-014E Engineering Specification Mil-C-81511 (Test)

Program: AN/FPN-62

Type	:	Demountable
# of Contacts	:	
Insertion Loss (db)	:	Less than 3
Repeatability	:	
Applicable Test or	:	1842 EEG/EEIT TR83-16-EZ
Construction Specifications		

Program: ANALOG FIBER OPTIC MODEM

Type	:	Demountable
# of Contacts	:	
Insertion Loss (db)	:	Less than 2db
Repeatability	:	Less than .2 (over 250 cycles)
Applicable Test or	:	EPS-82-016B
Construction Specifications		Compatible w/fiber specified in DOD-C-85045-1, DOD-STD-1678 (test)

Program: DIGITAL FIBER OPTIC MODEM

Type	:	Demountable
# of Contacts	:	
Insertion Loss (db)	:	Less than 2db
Repeatability	:	Less than +2 (over 250 cycles)
Applicable Test or Construction Specifications	:	EPS-82-001C Compatible w/fiber specified in DOD-C-85045-11 DOD-ST-1678 (Test)

Program: TRI-TAC, MO-1206, AN/TTC-42, SB-3865, AN/GRC-201, AN/TRC-170, TD-1234, AN/TTC-39, AN/TSQ-11

Type	:	Hermaphroditic
# of Contacts	:	
Insertion Loss (db)	:	
Repeatability	:	
Applicable Test or Construction Specifications	:	Will use connectors as specified by FOTS-CH, CR-CS-0051-001. ICD-018-12, Purchase Description for fiber optic cable system (FOCS)

Program: TAOC-85 (MCE)

Type	:	Hughes
# of Contacts	:	2
Insertion Loss (db)	:	
Repeatability	:	
Applicable Test or Construction Specifications	:	

Program: AN/TPN-19

Type	:	Hermaphroditic
# of Contacts	:	2
Insertion Loss (db)	:	
Repeatability	:	
Applicable Test or	:	404L-701-5106
Construction Specifications		

Program: MFOX

Type	:	SMA or BNC
# of Contacts	:	(1)
Insertion Loss (db)	:	
Repeatability	:	
Applicable Test or	:	Preliminary Development
Construction Specifications		Requirements

6060

FIBER OPTIC INTERCONNECTORS

ARMY

Program: TRI-TAC, MO-1026, AN/TTC-42, SB-3865, AN/GRC-201, AN/TRC-170,
TD-1234, AN/TTC-39, AN/TSQ-11

Type	:	Hermaphroditic
# of Contacts	:	
Insertion Loss (db)	:	
Repeatability	:	
Applicable Test or	:	Will use connectors specified
Construction Specifications		by FOTS-CH, CR-CS-0051-001
		ICD-018 12, Purchase
		Description for Fiber Optic
		Cable System (FOCS)

6060

FIBER OPTIC INTERCONNECTORS

MARINES

Program: TAOC-85 (MCE)

Type	:	Hughes
# of Contacts	:	2
Insertion Loss (db)	:	
Repeatability	:	
Applicable Test or	:	
Construction Specifications		

6060

FIBER OPTIC INTERCONNECTORS

NAVY

Program: AV-88

Type	:	SMA
# of Contacts	:	1
Insertion Loss (db)	:	
Repeatability	:	
Applicable Test or	:	
Construction Specifications		

APPENDIX 10

COMMERCIAL COMPONENT LIST

Representative Listing From VENDORS.PT2 File

Company Information

Company name ----- Codenoll Technology Corporation
 Division -----
 Street ----- 1086 North Broadway
 City, State & zip ----- Yonkers, NY 10701
 Country ----- U.S.A.
 Telephone number ----- 914-965-6300
 Telex number ----- 646159

Key personnel ----- Michael H. Coden, President
 Frederick W. Scholl, Sr. Vice President
 Judith T. Scholl, General Counsel, G Gen

Major products ----- Codelinks- Fiber Optic Data Links
 Codeleds- High Radiance Edge Emitting LE
 Codenet-Fiber Optic Ethernet
 Codedata- Manchester Encoder/Decoders
 Codebeam- Line of Sight Light Beam Link

Name form filled by ----- Lori Principe
 Date form filled out ----- 2-8-84

Representative Listing From VENDORS.PT2 File

Codenoll Technology Corporation CONNECTOR MATRIX

Model Number	C21	C22	C23	C29 Bulkhead Feedthru
Insertion Loss (dB)	2.0	2.0	2.0	NA
Insert. Loss - 1000 Matings (dB)	2.0	2.0	2.0	
Number of Connects/Disconnects	>10,000	>10000	>10000	
Operating Temperature Range (C)	-55 to +125	-55 to 150	-55 to +150	
Fiber Diameter (microns)	125	160	140	
Mounting Type	all	all	ALL	all
Dimensions	.920 d=.321	.920 d=.321	.920 d=.312	
Weight				
Number of Fiber Term. Available	125-1140 um	125-1140 um	125-1140um	
Housing Material	Plastic	Pl	PLASTIC	
Time to Mount Conn. on Fiber	<20	<20	<20 min	
Tensile Pullout Strength	60 lbs min	60 lbs min	60lbs min	
Military Environment	y	y	y	
Industrial Environment				
Office Environment		y	y	
Fiber to Fiber Opt. Coupling	y	n	n	
Expanded Beam Technology	n	y	y	
Strength Member Tie-offs	y	y	y	
Hermaphroditic				
Bulkhead Mountable	y	y	y	
Component Receptacle Available	y	y	y	
Fiber Polishing Necessary		y	y	
Index Matching Fluid Required	y	y	y	
Adhesives Necessary	n	n	n	
Environmental Seal at Joint	n	n	n	
Price 1-9	y	y	y	
Price 10-99				
Price Over 100				

Representative Listing From VENDORS.PT2 File

Codenoll Technology Corporation

SOURCES MATRIX

Model Number	CODELED-8E000	CODELED-8E001	CODELED-8E002	CODELED-3E000
LED or Laser	LED	LED	LED	LED
Source Material	GaAlAs	GaAlAs	GaAlAs	InAlAsP
Peak Emission Wavelength (nm)	830	830	830	1300
Maximum O/ Power (mW)	.550 .5NA	.690 .5NA	.900 .5NA	.350 .5 NA
Duty Factor	On	On	On	On
Pigtail Type	Various	Various	Various	Various
Half Angle Beam Spread (deg.)	30	30	30	30
Spectral Width FWHM (nm)	60	60	60	60
Emitting Area (microns)	10 x 30	10 x 30	10 x 30	10 x 30
Rise Time (ns)	3	3	3	3
Fall Time (ns)	3	3	3	3
Nominal Operating Temp. (C)	25	25	25	25
Allowed Temperature Range (C)	-55 to +125	-55 to +125	-55 to +125	-55 to +125
Threshold Current (mA)	100	100	100	100
Current for Spec. Output (mA)	2.0	2.0	2.0	2.0
Forward Volt. - Spec. Out. (V)	2.0	2.0	2.0	2.0
Unit Price for 100 (\$)	80	120	160	400

Representative Listing From VENDORS.PTZ File

Codenoll Technology Corporation

CABLE MATRIX

Model Number	CFOC-50-1	CFOC-50-2	CFOC-100-1	CFOC-100-2
Number of Fibers	1	2	1	2
Fiber Index Type	GI	GI	GI	GI
Fiber Core Diameter (um)	50	50	100	100
Overall Coated Diameter (um)	950	950	950	950
Cladding Diameter (um)	125	125	140	140
Cable Diameter (mm)	3.0	3.0X6.0	3.0	3.0X6.0
Cable Weight (kg/km)	7.5	15	7.5	15
Minimum Bend Radius (mm)	50	50	50	50
Tensile Strength Rating (kg)	30.6	61.2	30.6	61.2
Attenuation Rating (dB/km)	5.0	5.0	6.0	6.0
Attenuation Wavelength (um)	850	850	850	850
Numerical Aperture	.2	.2	.28	.28
Dispersion Rating (ns/km)	NA	NA	NA	NA
Bandwidth Capacity (MHz-km)	400	400	100	100
Factory Unit Lengths (km)	ANY	ANY	ANY	ANY
Fiber Material	G	G	G	G
Jacket Material	PU	PU	PU	PU
Price (\$/m for 1 km)	1.35	2.70	1.60	3.20
Price (\$/m for 1-10 km)	1.10	2.20	1.25	2.50

APPENDIX 11

MAGNETIC TAPE DATA FORMAT

The information for the Fiber Optics Systems Database is contained in three files: SYSTEMS.DAT, PARTS.DAT, and SPECS.DAT. The fields within each record of these files are delimited by TABS. Fields which contain "free text" may contain punctuation, including commas. The layout of each file is given below.

In addition, a full-text listing of major vendors and their products is included. This information is split into two files: VENDORS.PT1, and VENDORS.PT2 (the second file is simply a continuation of the listing which is begun in the first file). The format of these two files will be readily apparent by examining their textual contents.

SYSTEMS.DAT =====

Field Number	Maximum Length	Description	Format
1	3	System number	Numeric, zero fill
2	66	System name	Free text
3	66	Responsible organization	Free text
4	66	Status of system	Free text
5	50	Number of systems	Free text
		Contact #1 as follows:	
6	45	Name	Free text
7	45	Address-1	Free text
8	45	Address-2	Free text
9	34	City	Free text
10	2	State	Alphabetic, capitalized
11	5	Zip code	Numeric
12	24	Phone number	Free text
13	10	Autovon number	Free text
14-21		Contact #2 (as per #1)	
22-29		Contact #3 (as per #1)	
		Contractor #1 as follows:	
30	45	Name	Free text
31	45	Prime contact	Free text
32	45	Second contact	Free text
33	45	Address-1	Free text
34	45	Address-2	Free text
35	34	City	Free text
36	2	State	Alphabetic, capitalized
37	5	Zip code	Numeric
38	24	Phone number	Free text
39	45	Responsibility-1	Free text
40	45	Responsibility-2	Free text
41-51		Contractor #2 (as per #1)	
52-62		Contractor #3 (as per #1)	

PARTS.DAT

=====

Field Number	Maximum Length	Description	Format
1	3	System number	Numeric, zero fill
2	2	Component number	Numeric, zero fill
3	45	Description	Free text
4	45	Vendor	Free text
5	22	Commercial part number	Free text
6	22	Military part number	Free text
7	45	Specifications	Free text
8	70	Comments	Free text

SPECS.DAT

=====

Field Number	Maximum Length	Description	Format
1	3	Record number	Numeric, zero fill
2	90	Title (line 1)	Free text
3	90	Title (line 2, if any)	Free text
4	30	Specification number	Free text
		Responsible Organization:	
5	64	Name	Free text
6	64	Address-1	Free text
7	64	Address-2	Free text
		Responsible Individual:	
8	64	Name	Free text
9	64	Address-1	Free text
10	64	Address-2	Free text
11	34	Phone	Free text
12	19	Autovon	Free text
13	64	Issue Date	Free text

END

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